

# Water Testing Results for 2023 Reporting Period

*With deep gratitude and respect, we are honoured to be learning and unlearning on the ancestral and unceded lands of the xʷməθkʷə́yəm (Musqueam), Skwxwú7mesh Úxwumixw (Squamish Nation) & səlilwətał (Tsleil-Waututh Nation).*

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A4334</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Carnarvon Elementary                            | Date Samples Received   | : 28-Feb-2023 11:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 01-Mar-2023                                                       |
| C-O-C number            | : 20-1041757                                      | Issue Date              | : 02-Mar-2023 16:57                                                 |
| Sampler                 | : R.Lemay                                         |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 1                                               |                         |                                                                     |
| No. of samples analysed | : 1                                               |                         |                                                                     |

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

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## QUALITY CONTROL INTERPRETIVE REPORT

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|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A4334</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Carnarvon Elementary                            | Date Samples Received | : 28-Feb-2023 11:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 02-Mar-2023 16:57                                                 |
| C-O-C number            | : 20-1041757                                      |                       |                                                                     |
| Sampler                 | : R.Lemay                                         |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 1                                               |                       |                                                                     |
| No. of samples analysed | : 1                                               |                       |                                                                     |

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

### Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

---

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                  | Method | Sampling Date | Extraction / Preparation |                                                   |        |      | Analysis      |               |        |      |
|----------------------------------------------------------------|--------|---------------|--------------------------|---------------------------------------------------|--------|------|---------------|---------------|--------|------|
| Container / Client Sample ID(s)                                |        |               | Preparation Date         | Holding Times                                     |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                |        |               |                          | Rec                                               | Actual |      |               | Rec           | Actual |      |
|                                                                |        |               |                          | Total Metals : Total metals in Water by CRC ICPMS |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Portable M01 Upper Left Faucet | E420   | 28-Feb-2023   | 01-Mar-2023              | ----                                              | ----   |      | 02-Mar-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 848959   | 1     | 18      | 5.5           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 848959   | 1     | 18      | 5.5           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 848959   | 1     | 18      | 5.5           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 848959   | 1     | 18      | 5.5           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |



## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A4334</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Carnarvon Elementary                            | Date Samples Received   | : 28-Feb-2023 11:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 01-Mar-2023                                                       |
| C-O-C number            | : 20-1041757                                      | Issue Date              | : 02-Mar-2023 16:57                                                 |
| Sampler                 | : R.Lemay ----                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 1                                               |                         |                                                                     |
| No. of samples analysed | : 1                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 848959) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A4332-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000427        | 0.000419         | 0.000008             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 848959) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 848959) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 97.5         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                                |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|--------------------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                                |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID               | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 848959) |                                |             |            |        |                          |           |              |                     |      |
| VA23A4334-001                | Portable M01 Upper Left Faucet | Lead, total | 7439-92-1  | E420   | 0.0188 mg/L              | 0.02 mg/L | 93.8         | 70.0                | 130  |



COC Number: 20 - 1041757

**Canada Toll Free: 1 800 668 9878**

Page of

[illegible]

REFER TO BACK PAGE FOR ALL LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

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

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

AUG 2020 FROM

# Results Summary VA23A4334

|                              |                                        |       |                   |
|------------------------------|----------------------------------------|-------|-------------------|
| Project                      | Carnarvon Elementary                   |       |                   |
| Report To                    | Stephen Thomas, Vancouver School Board |       |                   |
| Date Received                | 28-Feb-2023 11:00                      |       |                   |
| Issue Date                   | 02-Mar-2023 16:58                      |       |                   |
| Amendment                    | 0                                      |       |                   |
| Client Sample ID             | Portable M01 Upper Left Faucet         |       |                   |
| Date Sampled                 | 28-Feb-2023                            |       |                   |
| Time Sampled                 | 08:52                                  |       |                   |
| ALS Sample ID                | VA23A4334-001                          |       |                   |
| Analyte                      | Lowest Detection Limit                 | Units | Sub-Matrix: Water |
| Total Metals (Matrix: Water) |                                        |       |                   |
| Lead, total                  | 0.000050                               | mg/L  | 0.000908          |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3235</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Emily Carr Elementary                           | Date Samples Received   | : 10-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Feb-2023                                                       |
| C-O-C number            | : 20-1042200                                      | Issue Date              | : 14-Feb-2023 10:22                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 1                                               |                         |                                                                     |
| No. of samples analysed | : 1                                               |                         |                                                                     |

---

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| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|



## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3235</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Emily Carr Elementary                           | Date Samples Received | : 10-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 14-Feb-2023 10:22                                                 |
| C-O-C number            | : 20-1042200                                      |                       |                                                                     |
| Sampler                 | : ----                                            |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 1                                               |                       |                                                                     |
| No. of samples analysed | : 1                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                         | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| Container / Client Sample ID(s)                                       |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                       |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
|                                                                       |        |               |                          |               |        |      |               |               |        |      |
| Total Metals : Total metals in Water by CRC ICPMS                     |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Emily Carr Portable Upper Sink Faucet | E420   | 10-Feb-2023   | 13-Feb-2023              | ----          | ----   |      | 14-Feb-2023   | 180 days      | 4 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832627   | 1     | 17      | 5.8           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832627   | 1     | 17      | 5.8           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832627   | 1     | 17      | 5.8           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832627   | 1     | 17      | 5.8           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3235</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Emily Carr Elementary                           | Date Samples Received   | : 10-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Feb-2023                                                       |
| C-O-C number            | : 20-1042200                                      | Issue Date              | : 14-Feb-2023 10:22                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 1                                               |                         |                                                                     |
| No. of samples analysed | : 1                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 832627) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| FJ2300312-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000100                          | mg/L | <0.000100       | <0.000100        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 832627) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 832627) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 105          | 80.0                | 120  | ----      |

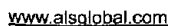
Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 832627) |                  |             |            |        |                          |           |              |                     |      |
| VA23A3199-001                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0187 mg/L              | 0.02 mg/L | 93.6         | 70.0                | 130  |





COC Number: 20 - 1042200

Page of

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 2020 FROM

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

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

# Results Summary VA23A3235

|               |                                        |
|---------------|----------------------------------------|
| Project       | Emily Carr Elementary                  |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 10-Feb-2023 15:00                      |
| Issue Date    | 14-Feb-2023 10:22                      |
| Amendment     | 0                                      |

|                  |                                          |       |                      |
|------------------|------------------------------------------|-------|----------------------|
| Client Sample ID | Emily Carr Portable<br>Upper Sink Faucet |       |                      |
| Date Sampled     | 10-Feb-2023                              |       |                      |
| Time Sampled     | 08:17                                    |       |                      |
| ALS Sample ID    | VA23A3235-001                            |       |                      |
| Analyte          | Lowest<br>Detection Limit                | Units | Sub-Matrix:<br>Water |

Total Metals (Matrix: Water)

|             |          |      |          |
|-------------|----------|------|----------|
| Lead, total | 0.000050 | mg/L | 0.000427 |
|-------------|----------|------|----------|

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3237</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Doulgas Annex Portable                          | Date Samples Received   | : 10-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Feb-2023                                                       |
| C-O-C number            | : 20-1042201                                      | Issue Date              | : 14-Feb-2023 10:22                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 1                                               |                         |                                                                     |
| No. of samples analysed | : 1                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| <i>Signatories</i> | <i>Position</i>                         | <i>Laboratory Department</i>      |
|--------------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte       | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3237</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Doulgas Annex Portable                          | Date Samples Received | : 10-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 14-Feb-2023 10:22                                                 |
| C-O-C number            | : 20-1042201                                      |                       |                                                                     |
| Sampler                 | : ----                                            |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 1                                               |                       |                                                                     |
| No. of samples analysed | : 1                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

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

| Analyte Group                                          | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|--------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| Container / Client Sample ID(s)                        |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                        |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
|                                                        |        |               |                          |               |        |      |               |               |        |      |
| Total Metals : Total metals in Water by CRC ICPMS      |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Douglas Annex Portable | E420   | 10-Feb-2023   | 13-Feb-2023              | ----          | ----   |      | 14-Feb-2023   | 180 days      | 4 days | ✓    |

### Legend & Qualifier Definitions

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





## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832627   | 1     | 17      | 5.8           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832627   | 1     | 17      | 5.8           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832627   | 1     | 17      | 5.8           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832627   | 1     | 17      | 5.8           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3237</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Doulgas Annex Portable                          | Date Samples Received   | : 10-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Feb-2023                                                       |
| C-O-C number            | : 20-1042201                                      | Issue Date              | : 14-Feb-2023 10:22                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 1                                               |                         |                                                                     |
| No. of samples analysed | : 1                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 832627) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| FJ2300312-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000100                          | mg/L | <0.000100       | <0.000100        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 832627) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 832627) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 105          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 832627) |                  |             |            |        |                          |           |              |                     |      |
| VA23A3199-001                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0187 mg/L              | 0.02 mg/L | 93.6         | 70.0                | 130  |



COC Number: 20 - 1042201

**Canada Toll Free: 1 800 668 9878**

Page of

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REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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

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

AUG 2020 FROM

# Results Summary VA23A3237

|                              |                                        |       |                   |
|------------------------------|----------------------------------------|-------|-------------------|
| Project                      | Doulgas Annex Portable                 |       |                   |
| Report To                    | Stephen Thomas, Vancouver School Board |       |                   |
| Date Received                | 10-Feb-2023 15:00                      |       |                   |
| Issue Date                   | 14-Feb-2023 10:23                      |       |                   |
| Amendment                    | 0                                      |       |                   |
| Client Sample ID             | Douglas Annex Portable                 |       |                   |
| Date Sampled                 | 10-Feb-2023                            |       |                   |
| Time Sampled                 | 07:42                                  |       |                   |
| ALS Sample ID                | VA23A3237-001                          |       |                   |
| Analyte                      | Lowest Detection Limit                 | Units | Sub-Matrix: Water |
| Total Metals (Matrix: Water) |                                        |       |                   |
| Lead, total                  | 0.000050                               | mg/L  | 0.000628          |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1645</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Garibaldi Elementary                            | Date Samples Received   | : 24-Jan-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 25-Jan-2023                                                       |
| C-O-C number            | : 20-1041702                                      | Issue Date              | : 25-Jan-2023 23:02                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |





## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1645</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Garibaldi Elementary                            | Date Samples Received | : 24-Jan-2023 14:45                                                 |
| PO                      | : ----                                            | Issue Date            | : 25-Jan-2023 23:02                                                 |
| C-O-C number            | : 20-1041702                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 3                                               |                       |                                                                     |
| No. of samples analysed | : 3                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)        | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                         |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                         |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100, Rm. 103 D.F. | E420   | 24-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 126, Rm. 121 D.F. | E420   | 24-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 200, Rm. 207 D.F. | E420   | 24-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 1 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 813272   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 813272   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 813272   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 813272   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1645</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
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| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Garibaldi Elementary                            | Date Samples Received   | : 24-Jan-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 25-Jan-2023                                                       |
| C-O-C number            | : 20-1041702                                      | Issue Date              | : 25-Jan-2023 23:02                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

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

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |





General Comments

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

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  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

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Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 813272) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A1596-004                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000205        | 0.000280         | 0.000075             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 813272) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 813272) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 100          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 813272) |                  |             |            |        |                          |           |              |                     |      |
| VA23A1596-005                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0199 mg/L              | 0.02 mg/L | 99.4         | 70.0                | 130  |



COC Number: 20 - 1041702

P.

Work Order Reference  
**VA23A1645**



Telephone : +1 604 253 4188

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REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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

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

# Results Summary VA23A1645

**Project** Garibaldi Elementary  
**Report To** Stephen Thomas, Vancouver School Board  
**Date Received** 24-Jan-2023 14:45  
**Issue Date** 25-Jan-2023 23:03  
**Amendment** 0

|                                     |                           |       |                            |                            |                            |
|-------------------------------------|---------------------------|-------|----------------------------|----------------------------|----------------------------|
| Client Sample ID                    |                           |       | Corr. 126, Rm. 121<br>D.F. | Corr. 100, Rm. 103<br>D.F. | Corr. 200, Rm. 207<br>D.F. |
| Date Sampled                        |                           |       | 24-Jan-2023                | 24-Jan-2023                | 24-Jan-2023                |
| Time Sampled                        |                           |       | 08:07                      | 08:11                      | 08:15                      |
| ALS Sample ID                       |                           |       | VA23A1645-001              | VA23A1645-002              | VA23A1645-003              |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water       | Sub-Matrix:<br>Water       | Sub-Matrix:<br>Water       |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                            |                            |                            |
| Lead, total                         | 0.000050                  | mg/L  | 0.00288                    | 0.00748                    | 0.00531                    |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1069</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : GLADSTONE SECONDARY SCHOOL                      | Date Samples Received   | : 17-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 19-Jan-2023                                                       |
| C-O-C number            | : 20-1041761                                      | Issue Date              | : 20-Jan-2023 14:46                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 22                                              |                         |                                                                     |
| No. of samples analysed | : 22                                              |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1069</b>                                | Page                  | : 1 of 7                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : GLADSTONE SECONDARY SCHOOL                      | Date Samples Received | : 17-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 20-Jan-2023 14:46                                                 |
| C-O-C number            | : 20-1041761                                      |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 22                                              |                       |                                                                     |
| No. of samples analysed | : 22                                              |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.



### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)             | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|--------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                              |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                              |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS            |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls change RM A125 SSDF    | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 19-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS            |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM A122 Weight RM DF         | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 19-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS            |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys change A110 DF          | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS            |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Cafeteria D113 Bottle Filler | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS            |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr A101 RM A102 DF         | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS            |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr B001 RM B006 DF         | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS            |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr B131 RM B100B DF        | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 3 days | ✓    |



Matrix: **Water**

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

| Analyte Group<br>Container / Client Sample ID(s)                | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation<br>Date      | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr B200 RM B205A DF           | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr B201 RM B210 DF            | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr C100 RM C105 DF            | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr D100 RM D103 DF            | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr E011 RM E007 DF            | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr E011 RM E013 Bottle Filler | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr E111 RM B112 DF            | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr E111 RM E105 DF            | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr E111 RM E114A DF           | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180<br>days   | 3 days | ✓    |



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)        | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                         |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                         |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr E200 RM E201 DF    | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr E200 RM E207 DF    | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls change RM A125 DF | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM D103 Bubbler         | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM E018 DF              | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM V107 Bubbler         | E420   | 17-Jan-2023   | 19-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 3 days | ✓    |

**Legend & Qualifier Definitions**

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 806415   | 2     | 40      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 806415   | 2     | 40      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 806415   | 2     | 40      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 806415   | 2     | 40      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1069</b>                                | Page                    | : 1 of 4                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : GLADSTONE SECONDARY SCHOOL                      | Date Samples Received   | : 17-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 19-Jan-2023                                                       |
| C-O-C number            | : 20-1041761                                      | Issue Date              | : 20-Jan-2023 14:45                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 22                                              |                         |                                                                     |
| No. of samples analysed | : 22                                              |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                      |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|----------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID     | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 806415) |                      |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A1069-001                 | Corr B001 RM B006 DF | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000811        | 0.000800         | 1.30%                | 20%              | ----      |
| Total Metals (QC Lot: 806797) |                      |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A1042-001                 | Anonymous            | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000165        | 0.000162         | 0.000003             | Diff <2x LOR     | ----      |





Method Blank (MB) Report

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

Sub-Matrix: Water

| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Total Metals (QCLot: 806415) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |
| Total Metals (QCLot: 806797) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

| Sub-Matrix: Water            |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 806415) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |
| Total Metals (QCLot: 806797) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

| Sub-Matrix: <b>Water</b>     |                                 |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |           |
|------------------------------|---------------------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|-----------|
|                              |                                 |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |           |
| Laboratory sample ID         | Client sample ID                | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High | Qualifier |
| Total Metals (QCLot: 806415) |                                 |             |            |        |                          |           |              |                     |      |           |
| VA23A1069-002                | Corr E011 RM E013 Bottle Filler | Lead, total | 7439-92-1  | E420   | 0.0200 mg/L              | 0.02 mg/L | 100          | 70.0                | 130  | ----      |
| Total Metals (QCLot: 806797) |                                 |             |            |        |                          |           |              |                     |      |           |
| VA23A1042-002                | Anonymous                       | Lead, total | 7439-92-1  | E420   | 0.0190 mg/L              | 0.02 mg/L | 95.3         | 70.0                | 130  | ----      |





www.alsglobal.com

Canada Toll Free: 1-800-668-9676

Chain of Custody (COC) / Analytical Request Form

COC Number: 20-1041761

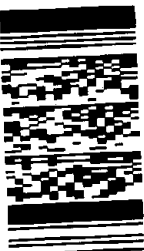
Page 1 of 2

|                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Report To</b><br>Contact and company name will appear on the final report<br>Company: <b>VANCOUVER SCHOLAR BOARD</b><br>Contact: <b>STEPHEN THOMAS</b><br>Phone: <b>604-413-6637</b><br>Company address below will appear on the final report                                                                 |  | <b>Reports / Recipients</b><br>Select Report Format: <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)<br>Merge COC/CI Reports with COA: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A<br><input type="checkbox"/> Compare Results to Criteria on Report - provide details below (box checked)<br>Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX |  |
| Street: <b>1549 Clark drive</b><br>City/Province: <b>Vancouver BC</b><br>Postal Code: <b>V6C 2K6</b><br>Invoice To: <input type="checkbox"/> Same as Report To <input type="checkbox"/> YES <input type="checkbox"/> NO<br>Copy of Invoice with Report: <input type="checkbox"/> YES <input type="checkbox"/> NO |  | Email 1 or Fax: <b>STHOMAS@vub.bc.ca</b><br>Email 2: <b>SCARRELL@vub.bc.ca</b><br>Email 3: <b>Jduong@vub.bc.ca</b><br>Invoice Recipients: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                                                                                                                                                                                                                                                                                             |  |
| Company: <b>Project Information</b><br>ALS Account # / Quote #: <b>2702-12-01</b><br>Job #: <b>Gladstone Secondary School</b><br>PO / A/E: <b>Requisitioner:</b><br>Location: <b>1549 Clark drive</b>                                                                                                            |  | Oil and Gas Required Fields (client use)<br>After/Before Center: <b>POB 3-111-15-15-15-15</b><br>Major/Minor Code: <b>Rolling Code:</b>                                                                                                                                                                                                                                                                                                                                                                                         |  |
| ALS Lab Work Order # (ALS use only): <b>A1069</b><br>Sample Identification and/or Coordinates<br>(This description will appear on the report)<br>Date: (dd-mm-yy) Time: (hh:mm) Sample Type:                                                                                                                     |  | ALS Contact: <b>T. J. Thompson</b> Sampler: <b>K. M. S. S. S. S.</b><br>Number of Containers: <b>1</b>                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Drinking Water (DW) Samples (client use)<br>Are samples taken from a Regulated DW System? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br>Are samples for human consumption/ use? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br>No preservatives added           |  | Notes / Specify Limits for result evaluation by selecting from drop-down below<br>(Excel COC only)                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| SHIPMENT RELEASE (client use)<br>Released by: Date: Time:                                                                                                                                                                                                                                                        |  | INITIAL SHIPMENT RECEPTION (ALS use only)<br>Received by: Date: Time:                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| WHITE - LABORATORY COPY<br>YELLOW - CLIENT COPY                                                                                                                                                                                                                                                                  |  | FINAL SHIPMENT RECEPTION (ALS use only)<br>Received by: Date: Time:                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION  
 Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.  
 1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Turnaround Time (TAT) Requested</b><br><input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply<br><input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum<br><input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum<br><input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum<br><input type="checkbox"/> 1 day [P1] if received by 3pm M-F - 100% rush surcharge minimum<br><input type="checkbox"/> Same day [E] if received by 10am M-F - 200% rush surcharge Additional fees may apply for rush requests on weekends, statutory holidays and non-routine tests |  | <b>Analysis Request</b><br>Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FP) below<br>For all tests with turn TATs requested, please contact your ALS to confirm availability. |  |
| Date and Time Required for all E&P Tests:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | dd-mm-yy hh:mm am/pm                                                                                                                                                                             |  |

Environmental Division  
 Vancouver  
 Work Order Reference  
**VA23A1069**  
 Telephone: +1 604 263 4188



SAMPLES ON HOLD  
 EXTENDED STORAGE REQUIRED  
 SUSPECTED HAZARD (see notes)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>SAMPLE RECEIPT DETAILS (ALS use only)</b><br>Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED<br>Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO<br>Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A<br>INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C: |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|



COC Number: 20 - 1041762

**Canada Toll Free: 1 800 668 9878**

Page 2 of 2

|                                                                                                                                                                   |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| Report To<br>Company name below will appear on the final report                                                                                                   |  |  |  |  |  |
| VANCOUVER SCHOOL BOARD                                                                                                                                            |  |  |  |  |  |
| STEPHEN THOMAS                                                                                                                                                    |  |  |  |  |  |
| 604-713-5637                                                                                                                                                      |  |  |  |  |  |
| Company address below will appear on the final report                                                                                                             |  |  |  |  |  |
| 1549 Clark drive                                                                                                                                                  |  |  |  |  |  |
| Vancouver BC                                                                                                                                                      |  |  |  |  |  |
|                                                                                                                                                                   |  |  |  |  |  |
| Postal Code:                                                                                                                                                      |  |  |  |  |  |
| Invoice To Same as Report To [ ] YES [ ] NO                                                                                                                       |  |  |  |  |  |
| Copy of Invoice with Report [ ] YES [ ] NO                                                                                                                        |  |  |  |  |  |
| Company:                                                                                                                                                          |  |  |  |  |  |
| Contact:                                                                                                                                                          |  |  |  |  |  |
| Project Information                                                                                                                                               |  |  |  |  |  |
| ALS Account # / Quote #:                                                                                                                                          |  |  |  |  |  |
| Job #: Gladstone Secondary School                                                                                                                                 |  |  |  |  |  |
| PO / AFE:                                                                                                                                                         |  |  |  |  |  |
| LSD:                                                                                                                                                              |  |  |  |  |  |
| ALS Lab Work Order # (ALS use only):                                                                                                                              |  |  |  |  |  |
| ALS Contact: T. Taranum Sampler: K. Messamore                                                                                                                     |  |  |  |  |  |
| Reports / Recipients                                                                                                                                              |  |  |  |  |  |
| Select Report Format: [X] PDF [ ] EXCEL [ ] EDD (DIGITAL)                                                                                                         |  |  |  |  |  |
| Merge QC/QCI Reports with COA [ ] YES [ ] NO [ ] N/A                                                                                                              |  |  |  |  |  |
| [ ] Compare Results to Criteria on Report - provide details below if box checked                                                                                  |  |  |  |  |  |
| Select Distribution: [X] EMAIL [ ] MAIL [ ] FAX                                                                                                                   |  |  |  |  |  |
| Email 1 or Fax ssthomas@vsh.bc.ca                                                                                                                                 |  |  |  |  |  |
| Email 2 Ccarrell@vsh.bc.ca                                                                                                                                        |  |  |  |  |  |
| Email 3 Jduong@vsh.bc.ca                                                                                                                                          |  |  |  |  |  |
| Turnaround Time (TAT) Requested                                                                                                                                   |  |  |  |  |  |
| [X] Routine [R] if received by 3pm M-F - no surcharges apply                                                                                                      |  |  |  |  |  |
| [ ] 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum                                                                                                |  |  |  |  |  |
| [ ] 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum                                                                                                |  |  |  |  |  |
| [ ] 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum                                                                                                |  |  |  |  |  |
| [ ] 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum                                                                                                |  |  |  |  |  |
| [ ] Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |  |  |  |  |  |
| Date and Time Required for all E&P TATs: dd-mm-yy hh:mm am/pm                                                                                                     |  |  |  |  |  |
| For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                           |  |  |  |  |  |
| Analysis Request                                                                                                                                                  |  |  |  |  |  |
| Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                        |  |  |  |  |  |
| NUMBER OF CONTAINERS                                                                                                                                              |  |  |  |  |  |
| SAMPLES ON HOLD                                                                                                                                                   |  |  |  |  |  |
| EXTENDED STORAGE REQUIRED                                                                                                                                         |  |  |  |  |  |
| SUSPECTED HAZARD (see notes)                                                                                                                                      |  |  |  |  |  |
| Oil and Gas Required Fields (client use)                                                                                                                          |  |  |  |  |  |
| AFE/Cost Center:                                                                                                                                                  |  |  |  |  |  |
| Major/Minor Code:                                                                                                                                                 |  |  |  |  |  |
| Routing Code:                                                                                                                                                     |  |  |  |  |  |
| Requisitioner:                                                                                                                                                    |  |  |  |  |  |
| Location:                                                                                                                                                         |  |  |  |  |  |
| Sample Identification and/or Coordinates                                                                                                                          |  |  |  |  |  |
| (This description will appear on the report)                                                                                                                      |  |  |  |  |  |
| Date (dd-mm-yy)                                                                                                                                                   |  |  |  |  |  |
| Time (hh:mm)                                                                                                                                                      |  |  |  |  |  |
| Sample Type                                                                                                                                                       |  |  |  |  |  |
| 13 RM V107 Bubbler DF 17-Jan-23 7:53 Water                                                                                                                        |  |  |  |  |  |
| 14 Corr B201 RM B210 DF 17-Jan-23 8:07 Water                                                                                                                      |  |  |  |  |  |
| 15 Corr E200 RM E201 DF 17-Jan-23 8:10 Water                                                                                                                      |  |  |  |  |  |
| 16 Corr F200 RM F207 DF 17-Jan-23 8:13 Water                                                                                                                      |  |  |  |  |  |
| 17 Corr B200 RM B205 A DF 17-Jan-23 8:16 Water                                                                                                                    |  |  |  |  |  |
| 18 Boys change A110 DF 17-Jan-23 8:22 Water                                                                                                                       |  |  |  |  |  |
| 19 Corr A101 RM A102 DF 17-Jan-23 8:26 Water                                                                                                                      |  |  |  |  |  |
| 20 Girls change RM A125 DF 17-Jan-23 8:30 Water                                                                                                                   |  |  |  |  |  |
| 21 Girls change RM A125 SSDF 17-Jan-23 8:31 Water                                                                                                                 |  |  |  |  |  |
| 22 RM A122 Weight RM DF 17-Jan-23 8:34 Water                                                                                                                      |  |  |  |  |  |
| Drinking Water (DW) Samples (client use)                                                                                                                          |  |  |  |  |  |
| Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)                                                                   |  |  |  |  |  |
| Are samples taken from a Regulated DW System? [X] YES [ ] NO                                                                                                      |  |  |  |  |  |
| Are samples for human consumption/ use? [X] YES [ ] NO                                                                                                            |  |  |  |  |  |
| No preservatives added                                                                                                                                            |  |  |  |  |  |
| SHIPMENT RELEASE (client use)                                                                                                                                     |  |  |  |  |  |
| INITIAL SHIPMENT RECEPTION (ALS use only)                                                                                                                         |  |  |  |  |  |
| FINAL SHIPMENT RECEPTION (ALS use only)                                                                                                                           |  |  |  |  |  |
| Cooling Method: [ ] NONE [ ] ICE [X] ICE PACKS [ ] FROZEN [ ] COOLING INITIATED                                                                                   |  |  |  |  |  |
| Submission Comments identified on Sample Receipt Notification: [ ] YES [ ] NO                                                                                     |  |  |  |  |  |
| Cooler Custody Seals Intact: [ ] YES [ ] N/A Sample Custody Seals Intact: [ ] YES [ ] N/A                                                                         |  |  |  |  |  |
| INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C:                                                                                                     |  |  |  |  |  |
| Released by: Date: Time: Received by: Date: Time: Received by: Date: Time:                                                                                        |  |  |  |  |  |

White Paper Co. 604 951-3900

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

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

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

AUG 2020 EDITION

Results Summary VA23A1069

|                              |                                        |       |                   |                   |                   |                   |                   |                    |                   |                    |                   |                   |                   |                              |                   |                   |                   |                   |                    |                     |                   |                      |                      |                   |  |
|------------------------------|----------------------------------------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|--------------------|-------------------|-------------------|-------------------|------------------------------|-------------------|-------------------|-------------------|-------------------|--------------------|---------------------|-------------------|----------------------|----------------------|-------------------|--|
| GLADSTONE SECONDARY SCHOOL   |                                        |       |                   |                   |                   |                   |                   |                    |                   |                    |                   |                   |                   |                              |                   |                   |                   |                   |                    |                     |                   |                      |                      |                   |  |
| Report To                    | Stephen Thomas, Vancouver School Board |       |                   |                   |                   |                   |                   |                    |                   |                    |                   |                   |                   |                              |                   |                   |                   |                   |                    |                     |                   |                      |                      |                   |  |
| Date Received                | 17-Jan-2023 15:00                      |       |                   |                   |                   |                   |                   |                    |                   |                    |                   |                   |                   |                              |                   |                   |                   |                   |                    |                     |                   |                      |                      |                   |  |
| Issue Date                   | 20-Jan-2023 14:47                      |       |                   |                   |                   |                   |                   |                    |                   |                    |                   |                   |                   |                              |                   |                   |                   |                   |                    |                     |                   |                      |                      |                   |  |
| Amendment                    | 0                                      |       |                   |                   |                   |                   |                   |                    |                   |                    |                   |                   |                   |                              |                   |                   |                   |                   |                    |                     |                   |                      |                      |                   |  |
| Client Sample ID             |                                        |       | Corr B001 RM B006 | Corr E011 RM E013 | Corr E011 RM E007 | RM E018 DF        | Corr E111 RM E105 | Corr E111 RM E114A | Corr E111 RM B112 | Corr B131 RM B100B | Corr C100 RM C105 | Corr D100 RM D103 | RM D103 Bubbler   | Cafeteria D113 Bottle Filler | RM V107 Bubbler   | Corr B201 RM B210 | Corr E200 RM E201 | Corr E200 RM E207 | Corr B200 RM B205A | Boys change A110 DF | Corr A101 RM A102 | Girls change RM A125 | Girls change RM A125 | RM A122 Weight RM |  |
|                              |                                        |       | DF                | Bottle Filler     | DF                |                   | DF                | DF                 | DF                | DF                 | DF                | DF                |                   |                              |                   | DF                | DF                | DF                | DF                 |                     | DF                | DF                   | SSDF                 | DF                |  |
|                              |                                        |       | 17-Jan-2023       | 17-Jan-2023       | 17-Jan-2023       | 17-Jan-2023       | 17-Jan-2023       | 17-Jan-2023        | 17-Jan-2023       | 17-Jan-2023        | 17-Jan-2023       | 17-Jan-2023       | 17-Jan-2023       | 17-Jan-2023                  | 17-Jan-2023       | 17-Jan-2023       | 17-Jan-2023       | 17-Jan-2023       | 17-Jan-2023        | 17-Jan-2023         | 17-Jan-2023       | 17-Jan-2023          | 17-Jan-2023          | 17-Jan-2023       |  |
|                              |                                        |       | 07:11             | 07:16             | 07:19             | 07:26             | 07:31             | 07:35              | 07:39             | 07:42              | 07:43             | 07:46             | 07:48             | 07:58                        | 07:53             | 08:07             | 08:10             | 08:13             | 08:16              | 08:22               | 08:26             | 08:30                | 08:31                | 08:34             |  |
|                              |                                        |       | VA23A1069-001     | VA23A1069-002     | VA23A1069-003     | VA23A1069-004     | VA23A1069-005     | VA23A1069-006      | VA23A1069-007     | VA23A1069-008      | VA23A1069-009     | VA23A1069-010     | VA23A1069-011     | VA23A1069-012                | VA23A1069-013     | VA23A1069-014     | VA23A1069-015     | VA23A1069-016     | VA23A1069-017      | VA23A1069-018       | VA23A1069-019     | VA23A1069-020        | VA23A1069-021        | VA23A1069-022     |  |
| Time Sampled                 |                                        |       |                   |                   |                   |                   |                   |                    |                   |                    |                   |                   |                   |                              |                   |                   |                   |                   |                    |                     |                   |                      |                      |                   |  |
| ALS Sample ID                |                                        |       |                   |                   |                   |                   |                   |                    |                   |                    |                   |                   |                   |                              |                   |                   |                   |                   |                    |                     |                   |                      |                      |                   |  |
| Analyte                      |                                        |       |                   |                   |                   |                   |                   |                    |                   |                    |                   |                   |                   |                              |                   |                   |                   |                   |                    |                     |                   |                      |                      |                   |  |
|                              | Lowest Detection Limit                 | Units | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water  | Sub-Matrix: Water | Sub-Matrix: Water  | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water            | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water  | Sub-Matrix: Water   | Sub-Matrix: Water | Sub-Matrix: Water    | Sub-Matrix: Water    |                   |  |
| Total Metals (Matrix: Water) |                                        |       |                   |                   |                   |                   |                   |                    |                   |                    |                   |                   |                   |                              |                   |                   |                   |                   |                    |                     |                   |                      |                      |                   |  |
| Lead, total                  | 0.000050                               | mg/L  | 0.000811          | 0.000252          | 0.00165           | 0.0388            | 0.00215           | 0.00209            | 0.000263          | 0.000985           | 0.00190           | 0.00163           | 0.00366           | 0.000604                     | 0.0511            | 0.00142           | 0.00107           | 0.00127           | 0.000629           | 0.00213             | 0.000243          | 0.00180              | 0.000854             | 0.00172           |  |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0190</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Henry Hudson Elementary                         | Date Samples Received   | : 05-Jan-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 07-Jan-2023                                                       |
| C-O-C number            | : 20-1039091                                      | Issue Date              | : 09-Jan-2023 09:47                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 7                                               |                         |                                                                     |
| No. of samples analysed | : 7                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

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| Matrix: | Client sample ID   |      | ----  | ----- | ----- | ----- | ----- | ----- | ----- |
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## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0190</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Henry Hudson Elementary                         | Date Samples Received | : 05-Jan-2023 14:45                                                 |
| PO                      | : ----                                            | Issue Date            | : 09-Jan-2023 09:21                                                 |
| C-O-C number            | : 20-1039091                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : ----                                            |                       |                                                                     |
| No. of samples received | : 7                                               |                       |                                                                     |
| No. of samples analysed | : 7                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)                | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 109 Rm. 105 D.F.          | E420   | 05-Jan-2023   | 07-Jan-2023              | ----          | ----   |      | 08-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 200 Rm. 212 Bottle Filler | E420   | 05-Jan-2023   | 07-Jan-2023              | ----          | ----   |      | 08-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Play Area 004 D.F.              | E420   | 05-Jan-2023   | 07-Jan-2023              | ----          | ----   |      | 08-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. B107 D.F.                   | E420   | 05-Jan-2023   | 07-Jan-2023              | ----          | ----   |      | 08-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Stair. 269 Rm. 206 D.F.         | E420   | 05-Jan-2023   | 07-Jan-2023              | ----          | ----   |      | 08-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Vest. 016A Rm. 014 D.F.         | E420   | 05-Jan-2023   | 07-Jan-2023              | ----          | ----   |      | 08-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Vest. 100 Rm. 103 D.F.          | E420   | 05-Jan-2023   | 07-Jan-2023              | ----          | ----   |      | 08-Jan-2023   | 180 days      | 3 days | ✓    |



Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796032   | 1     | 20      | 5.0           | 5.0      | ✔          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796032   | 1     | 20      | 5.0           | 5.0      | ✔          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796032   | 1     | 20      | 5.0           | 5.0      | ✔          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796032   | 1     | 20      | 5.0           | 5.0      | ✔          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0190</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Henry Hudson Elementary                         | Date Samples Received   | : 05-Jan-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 07-Jan-2023                                                       |
| C-O-C number            | : 20-1039091                                      | Issue Date              | : 09-Jan-2023 09:22                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 7                                               |                         |                                                                     |
| No. of samples analysed | : 7                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 796032) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| FJ2300047-001                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000100                          | mg/L | <0.000100       | <0.000100        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 796032) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |





Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 796032) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 100          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 796032) |                  |             |            |        |                          |           |              |                     |      |
| FJ2300047-002                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0368 mg/L              | 0.04 mg/L | 91.9         | 70.0                | 130  |

T248.



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## Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 1039091

Page of

| Report To                                                                            |                                                                                       | Contact and company name below will appear on the final report |              | Reports / Recipients                                                                            |                                                                                                               | Turnaround Time (TAT) Requested                                                                                                                                                                     |                                                                                                                                                                                        | AFFIX ALS BARCODE LABEL HERE (ALS use only)                                             |                      |  |
|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------|--|
| Company:                                                                             | Vancouver School Board                                                                |                                                                |              | Select Report Format:                                                                           | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) |                                                                                                                                                                                                     | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                                                           |                                                                                         |                      |  |
| Contact:                                                                             | Stephen Thomas                                                                        |                                                                |              | Merge QC/QCI Reports with COA                                                                   | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         |                                                                                                                                                                                                     | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum                                                                                                |                                                                                         |                      |  |
| Phone:                                                                               | 604 713-5637                                                                          |                                                                |              | Compare Results to Criteria on Report - provide details below if box checked                    | <input type="checkbox"/>                                                                                      |                                                                                                                                                                                                     | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum                                                                                                |                                                                                         |                      |  |
| Company address below will appear on the final report                                |                                                                                       |                                                                |              | Select Distribution:                                                                            | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          |                                                                                                                                                                                                     | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum                                                                                                |                                                                                         |                      |  |
| Street:                                                                              | 1549 Clark Drive                                                                      |                                                                |              | Email 1 or Fax:                                                                                 | sstomas@vsb.bc.ca                                                                                             |                                                                                                                                                                                                     | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum                                                                                                |                                                                                         |                      |  |
| City/Province:                                                                       | Vancouver B.C.                                                                        |                                                                |              | Email 2:                                                                                        | leartrell@vsb.bc.ca                                                                                           |                                                                                                                                                                                                     | <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |                                                                                         |                      |  |
| Postal Code:                                                                         |                                                                                       |                                                                |              | Email 3:                                                                                        | jdvong@vsb.bc.ca                                                                                              |                                                                                                                                                                                                     | Date and Time Required for all E&P TATs:                                                                                                                                               |                                                                                         |                      |  |
| Invoice To:                                                                          | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                |              | Select Invoice Distribution:                                                                    |                                                                                                               | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                                                                                                           |                                                                                                                                                                                        | dd-mm-yy hh:mm am/pm                                                                    |                      |  |
| Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                       |                                                                |              | Invoice Recipients                                                                              |                                                                                                               |                                                                                                                                                                                                     |                                                                                                                                                                                        | For all tests with rush TATs requested, please contact your AM to confirm availability. |                      |  |
| Company:                                                                             |                                                                                       |                                                                |              | Email 1 or Fax:                                                                                 |                                                                                                               |                                                                                                                                                                                                     | Analysis Request                                                                                                                                                                       |                                                                                         | NUMBER OF CONTAINERS |  |
| Contact:                                                                             |                                                                                       |                                                                |              | Email 2:                                                                                        |                                                                                                               |                                                                                                                                                                                                     | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                             |                                                                                         |                      |  |
| Project Information                                                                  |                                                                                       |                                                                |              | Oil and Gas Required Fields (client use)                                                        |                                                                                                               |                                                                                                                                                                                                     |                                                                                                                                                                                        |                                                                                         |                      |  |
| ALS Account # / Quote #:                                                             |                                                                                       |                                                                |              | AFE/Cost Center:                                                                                |                                                                                                               | PO#                                                                                                                                                                                                 |                                                                                                                                                                                        |                                                                                         |                      |  |
| Job #: Henry Hudson Elementary                                                       |                                                                                       |                                                                |              | Major/Minor Code:                                                                               |                                                                                                               | Routing Code:                                                                                                                                                                                       |                                                                                                                                                                                        |                                                                                         |                      |  |
| PO / AFE:                                                                            |                                                                                       |                                                                |              | Requisitioner:                                                                                  |                                                                                                               |                                                                                                                                                                                                     |                                                                                                                                                                                        |                                                                                         |                      |  |
| LSD:                                                                                 |                                                                                       |                                                                |              | Location:                                                                                       |                                                                                                               |                                                                                                                                                                                                     |                                                                                                                                                                                        |                                                                                         |                      |  |
| ALS Lab Work Order # (ALS use only):                                                 |                                                                                       |                                                                |              | ALS Contact: T. Totannun                                                                        |                                                                                                               | Sampler: R. Lemay                                                                                                                                                                                   |                                                                                                                                                                                        |                                                                                         |                      |  |
| ALS Sample # (ALS use only)                                                          | Sample Identification and/or Coordinates (This description will appear on the report) |                                                                |              | Date (dd-mm-yy)                                                                                 | Time (hh:mm)                                                                                                  | Sample Type                                                                                                                                                                                         |                                                                                                                                                                                        |                                                                                         |                      |  |
|                                                                                      | <del>Vest Rm 016A</del>                                                               |                                                                |              |                                                                                                 |                                                                                                               |                                                                                                                                                                                                     |                                                                                                                                                                                        |                                                                                         |                      |  |
|                                                                                      | Yest. 016A Rm. 014                                                                    |                                                                |              | D.F.                                                                                            | 05-01-23                                                                                                      | 7:34am                                                                                                                                                                                              | water                                                                                                                                                                                  |                                                                                         |                      |  |
|                                                                                      | Play Area 004                                                                         |                                                                |              | D.F.                                                                                            | 05-01-23                                                                                                      | 7:37am                                                                                                                                                                                              | water                                                                                                                                                                                  |                                                                                         |                      |  |
|                                                                                      | Corr. 109 Rm. 105                                                                     |                                                                |              | D.F.                                                                                            | 05-01-23                                                                                                      | 7:40am                                                                                                                                                                                              | water                                                                                                                                                                                  |                                                                                         |                      |  |
|                                                                                      | Stair 269 Rm. 206                                                                     |                                                                |              | D.F.                                                                                            | 05-01-23                                                                                                      | 7:44am                                                                                                                                                                                              | water                                                                                                                                                                                  |                                                                                         |                      |  |
|                                                                                      | Corr. 200 Rm. 212                                                                     |                                                                |              | Bottle Filler                                                                                   | 05-01-23                                                                                                      | 7:47am                                                                                                                                                                                              | water                                                                                                                                                                                  |                                                                                         |                      |  |
|                                                                                      | Vest. 100 Rm. 103                                                                     |                                                                |              | D.F.                                                                                            | 05-01-23                                                                                                      | 7:50am                                                                                                                                                                                              | water                                                                                                                                                                                  |                                                                                         |                      |  |
|                                                                                      | Rm. B107                                                                              |                                                                |              | D.F.                                                                                            | 05-01-23                                                                                                      | 7:57am                                                                                                                                                                                              | water                                                                                                                                                                                  |                                                                                         |                      |  |
| Drinking Water (DW) Samples (client use)                                             |                                                                                       |                                                                |              | Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) |                                                                                                               | SAMPLE RECEIPT DETAILS (ALS use only)                                                                                                                                                               |                                                                                                                                                                                        |                                                                                         |                      |  |
| Are samples taken from a Regulated DW System?                                        |                                                                                       |                                                                |              | No preservatives added                                                                          |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED |                                                                                                                                                                                        |                                                                                         |                      |  |
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                  |                                                                                       |                                                                |              |                                                                                                 |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                             |                                                                                                                                                                                        |                                                                                         |                      |  |
| Are samples for human consumption/ use?                                              |                                                                                       |                                                                |              |                                                                                                 |                                                                                                               | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                       |                                                                                                                                                                                        |                                                                                         |                      |  |
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                  |                                                                                       |                                                                |              |                                                                                                 |                                                                                                               | INITIAL COOLER TEMPERATURES °C: 4 FINAL COOLER TEMPERATURES °C: 4                                                                                                                                   |                                                                                                                                                                                        |                                                                                         |                      |  |
| SHIPMENT RELEASE (client use)                                                        |                                                                                       |                                                                |              | INITIAL SHIPMENT RECEPTION (ALS use only)                                                       |                                                                                                               | FINAL SHIPMENT RECEPTION (ALS use only)                                                                                                                                                             |                                                                                                                                                                                        |                                                                                         |                      |  |
| Released by:                                                                         | Date:                                                                                 | Time:                                                          | Received by: | Date:                                                                                           | Time:                                                                                                         | Received by:                                                                                                                                                                                        | Date:                                                                                                                                                                                  | Time:                                                                                   |                      |  |
|                                                                                      |                                                                                       |                                                                |              |                                                                                                 |                                                                                                               | PC                                                                                                                                                                                                  | Jan 11/23                                                                                                                                                                              | 2:45                                                                                    |                      |  |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

AUG 2020 FRONT

Results Summary VA23A0190

|                              |                                        |       |                         |                    |                        |                         |                                 |                        |                   |
|------------------------------|----------------------------------------|-------|-------------------------|--------------------|------------------------|-------------------------|---------------------------------|------------------------|-------------------|
| Project                      | Henry Hudson Elementary                |       |                         |                    |                        |                         |                                 |                        |                   |
| Report To                    | Stephen Thomas, Vancouver School Board |       |                         |                    |                        |                         |                                 |                        |                   |
| Date Received                | 05-Jan-2023 14:45                      |       |                         |                    |                        |                         |                                 |                        |                   |
| Issue Date                   | 09-Jan-2023 09:48                      |       |                         |                    |                        |                         |                                 |                        |                   |
| Amendment                    | 0                                      |       |                         |                    |                        |                         |                                 |                        |                   |
|                              |                                        |       | Vest. 016A Rm. 014 D.F. | Play Area 004 D.F. | Corr. 109 Rm. 105 D.F. | Stair. 269 Rm. 206 D.F. | Corr. 200 Rm. 212 Bottle Filler | Vest. 100 Rm. 103 D.F. | Rm. B107 D.F.     |
| Client Sample ID             |                                        |       | 05-Jan-2023             | 05-Jan-2023        | 05-Jan-2023            | 05-Jan-2023             | 05-Jan-2023                     | 05-Jan-2023            | 05-Jan-2023       |
| Date Sampled                 |                                        |       | 07:34                   | 07:37              | 07:40                  | 07:44                   | 07:47                           | 07:50                  | 07:57             |
| Time Sampled                 |                                        |       | VA23A0190-001           | VA23A0190-002      | VA23A0190-003          | VA23A0190-004           | VA23A0190-005                   | VA23A0190-006          | VA23A0190-007     |
| ALS Sample ID                |                                        |       | Sub-Matrix: Water       | Sub-Matrix: Water  | Sub-Matrix: Water      | Sub-Matrix: Water       | Sub-Matrix: Water               | Sub-Matrix: Water      | Sub-Matrix: Water |
| Analyte                      | Lowest Detection Limit                 | Units |                         |                    |                        |                         |                                 |                        |                   |
| Total Metals (Matrix: Water) |                                        |       |                         |                    |                        |                         |                                 |                        |                   |
| lead, total                  | 0.000050                               | mg/L  | 0.000543                | 0.000067           | 0.000347               | 0.000186                | 0.000154                        | 0.000404               | 0.000182          |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2639</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Dr. Annie B. Jamieson Elementary                | Date Samples Received   | : 03-Feb-2023 15:10                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 05-Feb-2023                                                       |
| C-O-C number            | : 20-980491, 20-980492                            | Issue Date              | : 08-Feb-2023 08:53                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 24                                              |                         |                                                                     |
| No. of samples analysed | : 24                                              |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2639</b>                                | Page                  | : 1 of 7                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Dr. Annie B. Jamieson Elementary                | Date Samples Received | : 03-Feb-2023 15:10                                                 |
| PO                      | : ----                                            | Issue Date            | : 08-Feb-2023 08:53                                                 |
| C-O-C number            | : 20-980491, 20-980492                            |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 24                                              |                       |                                                                     |
| No. of samples analysed | : 24                                              |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.





## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 107 Bottle Filler | E420   | 03-Feb-2023   | 05-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 123 Bottle Filler | E420   | 03-Feb-2023   | 05-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 200 Rm. 216 Bottle Filler | E420   | 03-Feb-2023   | 05-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 119 Bubbler                 | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 120 Bubbler                 | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 123 Bubbler                 | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 124 Bubbler                 | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |



Matrix: **Water**

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

| Analyte Group<br>Container / Client Sample ID(s)  | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                   |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                   |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 125 Bubbler   | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 126 Bubbler   | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 136 Bubbler   | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 138 Bubbler   | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 139 Bubbler   | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 207 Bubbler   | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 208 Bubbler   | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 209 Bubbler   | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 211 Bubbler   | E420   | 03-Feb-2023   | 05-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180 days      | 3 days | ✓    |



Matrix: **Water**

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

| Analyte Group<br>Container / Client Sample ID(s)  | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                   |        |               | Preparation<br>Date      | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                   |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 212 Bubbler   | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 213 Bubbler   | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 216 Bubbler   | E420   | 03-Feb-2023   | 05-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 223 Bubbler   | E420   | 03-Feb-2023   | 05-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 224 Bubbler   | E420   | 03-Feb-2023   | 05-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 225 Bubbler   | E420   | 03-Feb-2023   | 05-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 226 Bubbler   | E420   | 03-Feb-2023   | 05-Feb-2023              | ----          | ----   |      | 06-Feb-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 214 Bubbler   | E420   | 03-Feb-2023   | 06-Feb-2023              | ----          | ----   |      | 07-Feb-2023   | 180<br>days   | 4 days | ✓    |

**Legend & Qualifier Definitions**

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 824132   | 3     | 52      | 5.7           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 824132   | 3     | 52      | 5.7           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 824132   | 3     | 52      | 5.7           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 824132   | 3     | 52      | 5.7           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2639</b>                                | Page                    | : 1 of 4                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Dr. Annie B. Jamieson Elementary                | Date Samples Received   | : 03-Feb-2023 15:10                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 05-Feb-2023                                                       |
| C-O-C number            | : 20-980491, 20-980492                            | Issue Date              | : 08-Feb-2023 08:53                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 24                                              |                         |                                                                     |
| No. of samples analysed | : 24                                              |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 824132) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| FJ2300235-005                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |
| Total Metals (QC Lot: 824133) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A2639-011                 | Rm. 212 Bubbler  | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000153        | 0.000159         | 0.000006             | Diff <2x LOR     | ----      |
| Total Metals (QC Lot: 824348) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A2666-007                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |



Method Blank (MB) Report

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

Sub-Matrix: Water

| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Total Metals (QCLot: 824132) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |
| Total Metals (QCLot: 824133) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |
| Total Metals (QCLot: 824348) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 824132) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 106          | 80.0                | 120  | ----      |
| Total Metals (QCLot: 824133) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 106          | 80.0                | 120  | ----      |
| Total Metals (QCLot: 824348) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |





Matrix Spike (MS) Report

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

| Sub-Matrix: Water            |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |      |
|                              |                  |             |            |        | Concentration            | Target    | MS           | Low                 | High |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method |                          |           |              |                     |      |      |
| Total Metals (QCLot: 824132) |                  |             |            |        |                          |           |              |                     |      |      |
| FJ2300235-006                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0198 mg/L              | 0.02 mg/L | 99.2         | 70.0                | 130  | ---- |
| Total Metals (QCLot: 824133) |                  |             |            |        |                          |           |              |                     |      |      |
| VA23A2639-012                | Rm. 209 Bubbler  | Lead, total | 7439-92-1  | E420   | 0.0202 mg/L              | 0.02 mg/L | 101          | 70.0                | 130  | ---- |
| Total Metals (QCLot: 824348) |                  |             |            |        |                          |           |              |                     |      |      |
| VA23A2666-010                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0186 mg/L              | 0.02 mg/L | 93.0         | 70.0                | 130  | ---- |



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# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 980491

Environmental Division  
Vancouver

Work Order Reference  
**VA23A2639**



Telephone : +1 604 253 4188

|                                                                                    |                                                                                       |                                                                                                       |                                                                                                               |                                                                                                                                                                                                     |       |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>Report To</b><br>Contact and company name below will appear on the final report |                                                                                       | <b>Reports / Recipients</b>                                                                           |                                                                                                               | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                              |       |
| Company:                                                                           | Vancouver School Board                                                                | Select Report Format:                                                                                 | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                                                                        |       |
| Contact:                                                                           | Stephen Thomas                                                                        | Merge QC/QCI Reports with COA                                                                         | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge min                                                                                                                 |       |
| Phone:                                                                             | 604 713 5637                                                                          | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked |                                                                                                               | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge min                                                                                                                 |       |
| Company address below will appear on the final report                              |                                                                                       | Select Distribution:                                                                                  | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge min                                                                                                                 |       |
| Street:                                                                            | 1549 Clark Drive                                                                      | Email 1 or Fax:                                                                                       | stthomas@usb.bc.ca                                                                                            | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge min                                                                                                                 |       |
| City/Province:                                                                     | Vancouver B.C.                                                                        | Email 2:                                                                                              | ccarrell@usb.bc.ca                                                                                            | <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge may apply to rush requests on weekends, statutory holidays and                                                 |       |
| Postal Code:                                                                       |                                                                                       | Email 3:                                                                                              | jduong@usb.bc.ca                                                                                              | Date and Time Required for all E&P TATs:                                                                                                                                                            |       |
| Invoice To:                                                                        | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Invoice Recipients                                                                                    |                                                                                                               | For all tests with rush TATs requested, pl                                                                                                                                                          |       |
|                                                                                    | Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO  | Select Invoice Distribution:                                                                          | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                     | <b>Analysis</b>                                                                                                                                                                                     |       |
| Company:                                                                           |                                                                                       | Email 1 or Fax:                                                                                       |                                                                                                               | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FP) below                                                                                                                           |       |
| Contact:                                                                           |                                                                                       | Email 2:                                                                                              |                                                                                                               |                                                                                                                                                                                                     |       |
| <b>Project Information</b>                                                         |                                                                                       | <b>Oil and Gas Required Fields (client use)</b>                                                       |                                                                                                               |                                                                                                                                                                                                     |       |
| ALS Account # / Quote #:                                                           |                                                                                       | AFE/Cost Center:                                                                                      |                                                                                                               | PO#                                                                                                                                                                                                 |       |
| Job #: Dr. Annie B. Samieson Elementary                                            |                                                                                       | Major/Minor Code:                                                                                     |                                                                                                               | Routing Code:                                                                                                                                                                                       |       |
| PO / AFE:                                                                          |                                                                                       | Requisitioner:                                                                                        |                                                                                                               |                                                                                                                                                                                                     |       |
| LSD:                                                                               |                                                                                       | Location:                                                                                             |                                                                                                               |                                                                                                                                                                                                     |       |
| ALS Lab Work Order # (ALS use only):                                               |                                                                                       | ALS Contact: T. Tarannum                                                                              |                                                                                                               | Sampler: R. Lemay                                                                                                                                                                                   |       |
| ALS Sample # (ALS use only)                                                        | Sample Identification and/or Coordinates (This description will appear on the report) | Date (dd-mm-yy)                                                                                       | Time (hh:mm)                                                                                                  | Sample Type                                                                                                                                                                                         |       |
|                                                                                    | Corr. 100 Rm. 107 Bottle Filler                                                       | 03-02-23                                                                                              | 7:37am                                                                                                        | water                                                                                                                                                                                               |       |
|                                                                                    | Corr. 100 Rm. 123 Bottle Filler                                                       | 03-02-23                                                                                              | 7:41am                                                                                                        | water                                                                                                                                                                                               |       |
|                                                                                    | Corr. 200 Rm. 216 Bottle Filler                                                       | 03-02-23                                                                                              | 7:45                                                                                                          | water                                                                                                                                                                                               |       |
|                                                                                    | Rm. 224 Bubbler                                                                       | 03-02-23                                                                                              | 7:53                                                                                                          | water                                                                                                                                                                                               |       |
|                                                                                    | Rm. 225 Bubbler                                                                       | 03-02-23                                                                                              | 7:55                                                                                                          | water                                                                                                                                                                                               |       |
|                                                                                    | Rm. 223 Bubbler                                                                       | 03-02-23                                                                                              | 7:58                                                                                                          | water                                                                                                                                                                                               |       |
|                                                                                    | Rm. 226 Bubbler                                                                       | 03-02-23                                                                                              | 8:01                                                                                                          | water                                                                                                                                                                                               |       |
|                                                                                    | Rm. 216 Bubbler                                                                       | 03-02-23                                                                                              | 8:05                                                                                                          | water                                                                                                                                                                                               |       |
|                                                                                    | Rm. 211 Bubbler                                                                       | 03-02-23                                                                                              | 8:09                                                                                                          | water                                                                                                                                                                                               |       |
|                                                                                    | Rm. 214 Bubbler                                                                       | 03-02-23                                                                                              | 8:12                                                                                                          | water                                                                                                                                                                                               |       |
|                                                                                    | Rm. 212 Bubbler                                                                       | 03-02-23                                                                                              | 8:15                                                                                                          | water                                                                                                                                                                                               |       |
|                                                                                    | Rm. 209 Bubbler                                                                       | 03-02-23                                                                                              | 8:18                                                                                                          | water                                                                                                                                                                                               |       |
| <b>Drinking Water (DW) Samples<sup>1</sup> (client use)</b>                        |                                                                                       | Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)       |                                                                                                               | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                        |       |
| Are samples taken from a Regulated DW System?                                      |                                                                                       | No preservatives added                                                                                |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED |       |
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                |                                                                                       |                                                                                                       |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                             |       |
| Are samples for human consumption/ use?                                            |                                                                                       |                                                                                                       |                                                                                                               | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                       |       |
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                |                                                                                       |                                                                                                       |                                                                                                               | INITIAL COOLER TEMPERATURES °C: 9 FINAL COOLER TEMPERATURES °C: 9                                                                                                                                   |       |
| <b>SHIPMENT RELEASE (client use)</b>                                               |                                                                                       | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                      |                                                                                                               | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                      |       |
| Released by:                                                                       | Date:                                                                                 | Time:                                                                                                 | Received by:                                                                                                  | Date:                                                                                                                                                                                               | Time: |
|                                                                                    |                                                                                       |                                                                                                       |                                                                                                               |                                                                                                                                                                                                     |       |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

AUG 2020 FORM



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## Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 980492

Canada Toll Free: 1 800 668 9878

Page of

|                                                                                    |                                                                                       |                                                                                                 |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------|------------|
| <b>Report To</b><br>Contact and company name below will appear on the final report |                                                                                       | <b>Reports / Recipients</b>                                                                     |                                                                                                               | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             | <b>AFFIX ALS BARCODE LABEL HERE</b><br>(ALS use only) |            |
| Company:                                                                           | Vancouver School Board                                                                | Select Report Format:                                                                           | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply<br><input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum<br><input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum<br><input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum<br><input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum<br><input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |             |                                                       |            |
| Contact:                                                                           | Stephen Thomas                                                                        | Merge QC/QCI Reports with COA                                                                   | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| Phone:                                                                             | 604 713-5637                                                                          | Compare Results to Criteria on Report - provide details below if box checked                    | <input type="checkbox"/>                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| Company address below will appear on the final report                              |                                                                                       | Select Distribution:                                                                            | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          | Date and Time Required for all E&P TATs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             | dd-mmm-yy hh:mm am/pm                                 |            |
| Street:                                                                            | 1549 Clark Drive                                                                      | Email 1 or Fax                                                                                  | sssthenas@vsb.bc.ca                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| City/Province:                                                                     | Vancouver B.C.                                                                        | Email 2                                                                                         | lcarrell@vsb.bc.ca                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| Postal Code:                                                                       |                                                                                       | Email 3                                                                                         | jduong@vsb.bc.ca                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| Invoice To                                                                         | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | <b>Invoice Recipients</b>                                                                       |                                                                                                               | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                                       |            |
|                                                                                    | Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO  | Select Invoice Distribution:                                                                    | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| Company:                                                                           |                                                                                       | Email 1 or Fax                                                                                  |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| Contact:                                                                           |                                                                                       | Email 2                                                                                         |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| <b>Project Information</b>                                                         |                                                                                       | <b>Oil and Gas Required Fields (client use)</b>                                                 |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| ALS Account # / Quote #                                                            |                                                                                       | AFE/Cost Center:                                                                                | PO#                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| Job #:                                                                             | Dr. Annie B. Jamieson Elementary                                                      | Major/Minor Code:                                                                               | Routing Code:                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| PO / AFE:                                                                          |                                                                                       | Requisitioner:                                                                                  |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| LSD:                                                                               |                                                                                       | Location:                                                                                       |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |            |
| ALS Lab Work Order # (ALS use only):                                               |                                                                                       | ALS Contact:                                                                                    | T. Tarannum                                                                                                   | Sampler: R. Lemay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                                       |            |
| ALS Sample # (ALS use only)                                                        | Sample Identification and/or Coordinates (This description will appear on the report) |                                                                                                 | Date (dd-mmm-yy)                                                                                              | Time (hh:mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Sample Type |                                                       |            |
|                                                                                    | Rm. 207                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:21am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                       |            |
|                                                                                    | Rm. 208                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:23am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                       |            |
|                                                                                    | Rm. 119                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:26am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                       |            |
|                                                                                    | Rm. 120                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:28am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                       |            |
|                                                                                    | Rm. 123                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:33am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                       |            |
|                                                                                    | Rm. 124                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:36am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                       |            |
|                                                                                    | Rm. 125                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:38am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                       |            |
|                                                                                    | Rm. 126                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:43am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                       |            |
|                                                                                    | Rm. 136                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:46am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                       |            |
|                                                                                    | Rm. 138                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:48am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                       |            |
|                                                                                    | Rm. 139                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:50am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                       |            |
|                                                                                    | Rm. 213                                                                               | Bubbler                                                                                         | 03-02-23                                                                                                      | 8:07                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | water       |                                                       |            |
| <b>Drinking Water (DW) Samples<sup>1</sup> (client use)</b>                        |                                                                                       | Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) |                                                                                                               | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                                       |            |
| Are samples taken from a Regulated DW System?                                      |                                                                                       | No preservatives added                                                                          |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                                                       |            |
| Are samples for human consumption/ use?                                            |                                                                                       |                                                                                                 |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                                       |            |
|                                                                                    |                                                                                       |                                                                                                 |                                                                                                               | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                       |            |
|                                                                                    |                                                                                       |                                                                                                 |                                                                                                               | INITIAL COOLER TEMPERATURES °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             | FINAL COOLER TEMPERATURES °C                          |            |
|                                                                                    |                                                                                       |                                                                                                 |                                                                                                               | 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                                       |            |
| <b>SHIPMENT RELEASE (client use)</b>                                               |                                                                                       | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                |                                                                                                               | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                                                       |            |
| Released by:                                                                       | Date:                                                                                 | Time:                                                                                           | Received by:                                                                                                  | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Time:       | Received by:                                          | Time:      |
|                                                                                    |                                                                                       |                                                                                                 |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             | CW                                                    | Feb 3 1510 |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

AUG 2020 FRONT

Results Summary VA23A2639

|                                  |                                        |       |                                    |                                    |                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |          |          |
|----------------------------------|----------------------------------------|-------|------------------------------------|------------------------------------|------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|----------|----------|
| Dr. Annie B. Jamieson Elementary |                                        |       |                                    |                                    |                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |          |          |
| Report To                        | Stephen Thomas, Vancouver School Board |       |                                    |                                    |                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |          |          |
| Date Received                    | 03-Feb-2023 15:10                      |       |                                    |                                    |                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |          |          |
| Issue Date                       | 08-Feb-2023 08:53                      |       |                                    |                                    |                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |          |          |
| Amendment                        | 0                                      |       |                                    |                                    |                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |          |          |
|                                  |                                        |       |                                    |                                    |                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |          |          |
| Client Sample ID                 |                                        |       | Corr. 100 Rm. 107<br>Bottle Filler | Corr. 100 Rm. 123<br>Bottle Filler | Corr. 200 Rm. 216<br>Bottle Filler | Rm. 224 Bubbler               | Rm. 225 Bubbler               | Rm. 223 Bubbler               | Rm. 226 Bubbler               | Rm. 216 Bubbler               | Rm. 211 Bubbler               | Rm. 214 Bubbler               | Rm. 212 Bubbler               | Rm. 209 Bubbler               | Rm. 207 Bubbler               | Rm. 208 Bubbler               | Rm. 119 Bubbler               | Rm. 120 Bubbler               | Rm. 123 Bubbler               | Rm. 124 Bubbler               | Rm. 125 Bubbler               | Rm. 126 Bubbler               | Rm. 136 Bubbler               | Rm. 138 Bubbler               | Rm. 139 Bubbler               | Rm. 213 Bubbler               |          |          |
| Date Sampled                     |                                        |       | 03-Feb-2023                        | 03-Feb-2023                        | 03-Feb-2023                        | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   | 03-Feb-2023                   |          |          |
| Time Sampled                     |                                        |       | 07:37                              | 07:41                              | 07:45                              | 07:53                         | 07:55                         | 07:58                         | 08:01                         | 08:05                         | 08:09                         | 08:12                         | 08:15                         | 08:18                         | 08:21                         | 08:23                         | 08:26                         | 08:28                         | 08:33                         | 08:36                         | 08:38                         | 08:43                         | 08:46                         | 08:48                         | 08:50                         | 08:07                         |          |          |
| ALS Sample ID                    |                                        |       | VA23A2639-001                      | VA23A2639-002                      | VA23A2639-003                      | VA23A2639-004                 | VA23A2639-005                 | VA23A2639-006                 | VA23A2639-007                 | VA23A2639-008                 | VA23A2639-009                 | VA23A2639-010                 | VA23A2639-011                 | VA23A2639-012                 | VA23A2639-013                 | VA23A2639-014                 | VA23A2639-015                 | VA23A2639-016                 | VA23A2639-017                 | VA23A2639-018                 | VA23A2639-019                 | VA23A2639-020                 | VA23A2639-021                 | VA23A2639-022                 | VA23A2639-023                 | VA23A2639-024                 |          |          |
| AnalYTE                          |                                        |       | Sub-Matrix:<br>Drinking Water      | Sub-Matrix:<br>Drinking Water      | Sub-Matrix:<br>Drinking Water      | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water | Sub-Matrix:<br>Drinking Water |          |          |
| Lowest<br>Detection Limit        |                                        | Units |                                    |                                    |                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |          |          |
| Total Metals (Matrix: Water)     |                                        |       |                                    |                                    |                                    |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |          |          |
| Lead, total                      |                                        |       | 0.000050                           | mg/L                               | 0.000102                           | 0.000070                      | 0.000128                      | 0.000328                      | 0.000220                      | 0.000057                      | 0.000266                      | 0.000090                      | 0.000078                      | 0.000073                      | 0.000153                      | 0.000240                      | 0.000092                      | 0.000127                      | 0.000196                      | 0.000109                      | 0.000539                      | 0.000105                      | 0.000321                      | 0.000395                      | 0.000099                      | <0.000050                     | 0.000280 | 0.000379 |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1446</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : John Oliver Secondary                           | Date Samples Received   | : 20-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 23-Jan-2023                                                       |
| C-O-C number            | : 20-1041764/763                                  | Issue Date              | : 25-Jan-2023 10:01                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 17                                              |                         |                                                                     |
| No. of samples analysed | : 17                                              |                         |                                                                     |

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

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## QUALITY CONTROL INTERPRETIVE REPORT

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|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1446</b>                                | Page                  | : 1 of 7                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : John Oliver Secondary                           | Date Samples Received | : 20-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 25-Jan-2023 10:01                                                 |
| C-O-C number            | : 20-1041764/763                                  |                       |                                                                     |
| Sampler                 | : ----                                            |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 17                                              |                       |                                                                     |
| No. of samples analysed | : 17                                              |                       |                                                                     |

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

### Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

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### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.



### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>BARN Building B111 DF           | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>BARN Building boy's basement DF | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>BARN Building Lobby B 209 DF    | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>BARN Building Lobby B305 DF     | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys Change Rm 157 DF           | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 129 Rm 123 SSDF            | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 146 Rm 114 DF              | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 5 days | ✓    |



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)              | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation<br>Date      | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 148 Rm 149 Bottle Filler | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180<br>days   | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 148 Rm 155 Bottle Filler | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180<br>days   | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 240 Rm 225 DF            | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180<br>days   | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 246 Rm 210 SSDF          | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180<br>days   | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 246 Rm 248 DF            | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180<br>days   | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 332 Rm 324 DF            | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180<br>days   | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 334 Rm 303 SSDF          | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180<br>days   | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Lobby 132 Rm 122 DF           | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180<br>days   | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm 114 Bubbler                | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180<br>days   | 5 days | ✓    |



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                     | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| Container / Client Sample ID(s)                   |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                   |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm 115 Bubbler    | E420   | 20-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 5 days | ✔    |

Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 810950   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 810950   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 810950   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 810950   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1446</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : John Oliver Secondary                           | Date Samples Received   | : 20-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 23-Jan-2023                                                       |
| C-O-C number            | : 20-1041764/763                                  | Issue Date              | : 25-Jan-2023 10:01                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 17                                              |                         |                                                                     |
| No. of samples analysed | : 17                                              |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                       |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|-----------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID      | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 810950) |                       |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A1446-001                 | Boys Change Rm 157 DF | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000168        | 0.000170         | 0.000002             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 810950) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |





Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 810950) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                               |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|-------------------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                               |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID              | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 810950) |                               |             |            |        |                          |           |              |                     |      |
| VA23A1446-002                | Corr 148 Rm 155 Bottle Filler | Lead, total | 7439-92-1  | E420   | 0.0200 mg/L              | 0.02 mg/L | 100          | 70.0                | 130  |



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## Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20-1041764

Page 1 of 2

| Report To                                             |                                                                                       | Contact and company name below will appear on the final report |              | Reports / Recipients                                                                            |                                                                                                               | Turnaround Time (TAT) Requested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                         | Analysis Request                            |  |    |  |
|-------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------|--|----|--|
| Company:                                              | VANCOUVER SCHOOL BOARD                                                                |                                                                |              | Select Report Format:                                                                           | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply<br><input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum<br><input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum<br><input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum<br><input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum<br><input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |                                                                                         | AFFIX ALS BARCODE LABEL HERE (ALS use only) |  |    |  |
| Contact:                                              | STEVEN THOMAS                                                                         |                                                                |              | Merge QC/QCI Reports with COA                                                                   | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                         |                                             |  |    |  |
| Phone:                                                | 604-713-5637                                                                          |                                                                |              | Select Distribution:                                                                            | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                         |                                             |  |    |  |
| Company address below will appear on the final report |                                                                                       |                                                                |              | Select Invoice Distribution:                                                                    |                                                                                                               | Date and Time Required for all E&P TATs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                         | dd-mm-yy hh:mm am/pm                        |  |    |  |
| Street:                                               | 1549 clark drive                                                                      |                                                                |              | Email 1 or Fax:                                                                                 | SSThomas@usbc.bc.ca                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | For all tests with rush TATs requested, please contact your AM to confirm availability. |                                             |  |    |  |
| City/Province:                                        | Vancouver BC                                                                          |                                                                |              | Email 2:                                                                                        | C.Carrell@usbc.bc.ca                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Analysis Request                                                                        |                                             |  |    |  |
| Postal Code:                                          |                                                                                       |                                                                |              | Email 3:                                                                                        | T.duong@usbc.bc.ca                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below              |                                             |  |    |  |
| Invoice To                                            | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                |              | Invoice Recipients                                                                              |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                         | NUMBER OF CONTAINERS                        |  |    |  |
| Copy of Invoice with Report                           | <input type="checkbox"/> YES <input type="checkbox"/> NO                              |                                                                |              | Select Invoice Distribution:                                                                    |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                         | LEAD                                        |  |    |  |
| Company:                                              |                                                                                       |                                                                |              | Email 1 or Fax:                                                                                 |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                         |                                             |  |    |  |
| Contact:                                              |                                                                                       |                                                                |              | Email 2:                                                                                        |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                         |                                             |  |    |  |
| Project Information                                   |                                                                                       |                                                                |              | Oil and Gas Required Fields (client use)                                                        |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                         |                                             |  |    |  |
| ALS Account # / Quote #:                              |                                                                                       |                                                                |              | AFE/Cost Center:                                                                                |                                                                                                               | PO#                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                         |                                             |  |    |  |
| Job #:                                                |                                                                                       |                                                                |              | Major/Minor Code:                                                                               |                                                                                                               | Routing Code:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                         |                                             |  |    |  |
| PO / AFE:                                             |                                                                                       |                                                                |              | Requisitioner:                                                                                  |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                         |                                             |  |    |  |
| LSD:                                                  |                                                                                       |                                                                |              | Location:                                                                                       |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                         |                                             |  |    |  |
| ALS Lab Work Order # (ALS use only):                  |                                                                                       |                                                                |              | ALS Contact: T. Tarannum                                                                        |                                                                                                               | Sampler: K. Missamou                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                         |                                             |  |    |  |
| ALS Sample # (ALS use only)                           | Sample Identification and/or Coordinates (This description will appear on the report) |                                                                |              | Date (dd-mm-yy)                                                                                 | Time (hh:mm)                                                                                                  | Sample Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                         |                                             |  |    |  |
|                                                       | Boys change RM 157 DF                                                                 |                                                                |              | 20-JAN-23                                                                                       | 7:08                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
|                                                       | Corr 148 RM 155 Bottle Filler                                                         |                                                                |              | 20-JAN-23                                                                                       | 7:10                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
|                                                       | Corr 148 RM 149 Bottle Filler                                                         |                                                                |              | 20-JAN-23                                                                                       | 7:16                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
|                                                       | Corr 146 RM 114 DF                                                                    |                                                                |              | 20-JAN-23                                                                                       | 7:22                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
|                                                       | Corr 124 RM 123 SSDF                                                                  |                                                                |              | 20-JAN-23                                                                                       | 7:25                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
|                                                       | Lobby 132 RM 122 DF                                                                   |                                                                |              | 20-JAN-23                                                                                       | 7:29                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
|                                                       | Corr 240 RM 225 DF                                                                    |                                                                |              | 20-JAN-23                                                                                       | 7:34                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
|                                                       | Corr 246 RM 210 SSDF                                                                  |                                                                |              | 20-JAN-23                                                                                       | 7:38                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
|                                                       | Corr 246 RM 248 DF                                                                    |                                                                |              | 20-JAN-23                                                                                       | 7:41                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
|                                                       | Corr 332 RM 324 DF                                                                    |                                                                |              | 20-JAN-23                                                                                       | 7:51                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
|                                                       | Corr 334 RM 303 SSDF                                                                  |                                                                |              | 20-JAN-23                                                                                       | 7:46                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
|                                                       | RM 115 Bubbler                                                                        |                                                                |              | 20-JAN-23                                                                                       | 8:00                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
| Drinking Water (DW) Samples (client use)              |                                                                                       |                                                                |              | Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) |                                                                                                               | SAMPLE RECEIPT DETAILS (ALS use only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                         |                                             |  |    |  |
| Are samples taken from a Regulated DW System?         |                                                                                       |                                                                |              | No preservatives added                                                                          |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                         |                                             |  |    |  |
| Are samples for human consumption/ use?               |                                                                                       |                                                                |              |                                                                                                 |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                         |                                             |  |    |  |
|                                                       |                                                                                       |                                                                |              |                                                                                                 |                                                                                                               | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                         |                                             |  |    |  |
|                                                       |                                                                                       |                                                                |              |                                                                                                 |                                                                                                               | INITIAL COOLER TEMPERATURES °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                         | FINAL COOLER TEMPERATURES °C                |  | 4° |  |
| SHIPMENT RELEASE (client use)                         |                                                                                       |                                                                |              | INITIAL SHIPMENT RECEPTION (ALS use only)                                                       |                                                                                                               | FINAL SHIPMENT RECEPTION (ALS use only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                         |                                             |  |    |  |
| Released by:                                          | Date:                                                                                 | Time:                                                          | Received by: | Date:                                                                                           | Time:                                                                                                         | Received by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Date:                                                                                   | Time:                                       |  |    |  |
|                                                       |                                                                                       |                                                                |              |                                                                                                 |                                                                                                               | RD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Jan 20, 23                                                                              | 3pm                                         |  |    |  |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

AUG 2020 FRONT



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# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 1041763

Page 2 of 2

| Report To                                                                                                                                                                                                                              |                                                                                       | Reports / Recipients                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              | Turnaround Time (TAT) Requested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       | Analysis Request                                                             |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------------------------------|----------------|
| Company: VANCOUVER SCHOOL BOARD<br>Contact: STEPHEN THOMAS<br>Phone: 604-713-5637<br>Company address below will appear on the final report<br>Street: 1549 CLARK DRIVE<br>City/Province: VANCOUVER BC<br>Postal Code:                  |                                                                                       | Select Report Format: <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)<br>Merge QC/QCI Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A<br><input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked<br>Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX<br>Email 1 or Fax: SS Thomas @ vsb.bc.ca<br>Email 2: CCarrell @ vsb.bc.ca<br>Email 3: Jduong @ vsb.bc.ca |              | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply<br><input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum<br><input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum<br><input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum<br><input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum<br><input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests<br>Date and Time Required for all E&P TATs: dd-mm-yy hh:mm am/pm |       | AFFIX ALS BARCODE LABEL HERE (ALS use only)                                  |                |
| Invoice To: Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br>Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO<br>Company:<br>Contact:                      |                                                                                       | Invoice Recipients<br>Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX<br>Email 1 or Fax:<br>Email 2:                                                                                                                                                                                                                                                                                                                                                                                                                               |              | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                                                                              |                |
| Project Information<br>ALS Account # / Quote #:<br>Job #: John OLIVER elementary<br>PO / AFE:<br>LSD:                                                                                                                                  |                                                                                       | Oil and Gas Required Fields (client use)<br>AFE/Cost Center:<br>Major/Minor Code:<br>Requisitioner:<br>Location:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below<br>NUMBER OF CONTAINERS<br>LEAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       | SAMPLES ON HOLD<br>EXTENDED STORAGE REQUIRED<br>SUSPECTED HAZARD (see notes) |                |
| ALS Lab Work Order # (ALS use only):                                                                                                                                                                                                   |                                                                                       | ALS Contact: T. Taramm<br>Sampler: K. Messmore                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              | Analysis Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       | SAMPLES ON HOLD<br>EXTENDED STORAGE REQUIRED<br>SUSPECTED HAZARD (see notes) |                |
| ALS Sample # (ALS use only)                                                                                                                                                                                                            | Sample Identification and/or Coordinates (This description will appear on the report) | Date (dd-mm-yy)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Time (hh:mm) | Sample Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |                                                                              |                |
|                                                                                                                                                                                                                                        | RM 114 Bubbler                                                                        | 20-JAN-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 8:14         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |                                                                              |                |
|                                                                                                                                                                                                                                        | BARN Building Lobby R305 DF                                                           | 20-JAN-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 8:43         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |                                                                              |                |
|                                                                                                                                                                                                                                        | BARN Building Lobby B209 DF                                                           | 20-JAN-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 8:45         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |                                                                              |                |
|                                                                                                                                                                                                                                        | BARN Building B-117 DF                                                                | 20-JAN-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 8:49         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |                                                                              |                |
|                                                                                                                                                                                                                                        | BARN Building Bays Basement DF                                                        | 20-JAN-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 8:53         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |                                                                              |                |
| Drinking Water (DW) Samples <sup>1</sup> (client use)                                                                                                                                                                                  |                                                                                       | Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel-COC only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              | SAMPLE RECEIPT DETAILS (ALS use only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |                                                                              |                |
| Are samples taken from a Regulated DW System?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br>Are samples for human consumption/ use?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                       | No preservatives added                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED<br>Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO<br>Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A<br>INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C: 40                                                                                                                                                 |       |                                                                              |                |
| SHIPMENT RELEASE (client use)                                                                                                                                                                                                          |                                                                                       | INITIAL SHIPMENT RECEPTION (ALS use only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              | FINAL SHIPMENT RECEPTION (ALS use only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                                                                              |                |
| Released by:                                                                                                                                                                                                                           | Date:                                                                                 | Time:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Received by: | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Time: | Received by:                                                                 | Date:          |
|                                                                                                                                                                                                                                        |                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       | RD                                                                           | Jan 20, 23 3pm |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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

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

ALS 2020 FORM

Results Summary VA23A1446

|               |                                        |
|---------------|----------------------------------------|
| Project       | John Oliver Secondary                  |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 20-Jan-2023 15:00                      |
| Issue Date    | 25-Jan-2023 10:01                      |
| Amendment     | 0                                      |

|                              |                        |       |                       |                               |                               |                    |                      |                     |                    |                      |                    |                    |                      |                   |                   |                             |                              |                       |                                 |
|------------------------------|------------------------|-------|-----------------------|-------------------------------|-------------------------------|--------------------|----------------------|---------------------|--------------------|----------------------|--------------------|--------------------|----------------------|-------------------|-------------------|-----------------------------|------------------------------|-----------------------|---------------------------------|
| Client Sample ID             |                        |       | Boys Change Rm 157 DF | Corr 148 Rm 155 Bottle Filler | Corr 148 Rm 149 Bottle Filler | Corr 146 Rm 114 DF | Corr 129 Rm 123 SSDF | Lobby 132 Rm 122 DF | Corr 240 Rm 225 DF | Corr 246 Rm 210 SSDF | Corr 246 Rm 248 DF | Corr 332 Rm 324 DF | Corr 334 Rm 303 SSDF | Rm 115 Bubbler    | Rm 114 Bubbler    | BARN Building Lobby B305 DF | BARN Building Lobby B 209 DF | BARN Building B111 DF | BARN Building boy's basement DF |
| Date Sampled                 |                        |       | 20-Jan-2023 07:08     | 20-Jan-2023 07:10             | 20-Jan-2023 07:16             | 20-Jan-2023 07:22  | 20-Jan-2023 07:25    | 20-Jan-2023 07:29   | 20-Jan-2023 07:34  | 20-Jan-2023 07:38    | 20-Jan-2023 07:41  | 20-Jan-2023 07:51  | 20-Jan-2023 07:46    | 20-Jan-2023 08:00 | 20-Jan-2023 08:14 | 20-Jan-2023 08:43           | 20-Jan-2023 08:45            | 20-Jan-2023 08:49     | 20-Jan-2023 08:53               |
| Time Sampled                 |                        |       |                       |                               |                               |                    |                      |                     |                    |                      |                    |                    |                      |                   |                   |                             |                              |                       |                                 |
| ALS Sample ID                |                        |       | VA23A1446-001         | VA23A1446-002                 | VA23A1446-003                 | VA23A1446-004      | VA23A1446-005        | VA23A1446-006       | VA23A1446-007      | VA23A1446-008        | VA23A1446-009      | VA23A1446-010      | VA23A1446-011        | VA23A1446-012     | VA23A1446-013     | VA23A1446-014               | VA23A1446-015                | VA23A1446-016         | VA23A1446-017                   |
| Analyte                      | Lowest Detection Limit | Units | Sub-Matrix: Water     | Sub-Matrix: Water             | Sub-Matrix: Water             | Sub-Matrix: Water  | Sub-Matrix: Water    | Sub-Matrix: Water   | Sub-Matrix: Water  | Sub-Matrix: Water    | Sub-Matrix: Water  | Sub-Matrix: Water  | Sub-Matrix: Water    | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water           | Sub-Matrix: Water            | Sub-Matrix: Water     | Sub-Matrix: Water               |
| Total Metals (Matrix: Water) |                        |       |                       |                               |                               |                    |                      |                     |                    |                      |                    |                    |                      |                   |                   |                             |                              |                       |                                 |
| Lead, total                  | 0.000050               | mg/L  | 0.000168              | <0.000050                     | 0.000210                      | 0.00121            | 0.00315              | 0.00276             | 0.00203            | 0.00484              | 0.000724           | 0.00124            | 0.000406             | 0.00129           | 0.00326           | 0.0349                      | 0.0130                       | 0.0347                | 0.0473                          |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A4332</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : John Oliver Secondary                           | Date Samples Received   | : 28-Feb-2023 11:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 01-Mar-2023                                                       |
| C-O-C number            | : 20-1041751                                      | Issue Date              | : 02-Mar-2023 16:57                                                 |
| Sampler                 | : R.Lemay                                         |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 1                                               |                         |                                                                     |
| No. of samples analysed | : 1                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A4332</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : John Oliver Secondary                           | Date Samples Received | : 28-Feb-2023 11:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 02-Mar-2023 16:57                                                 |
| C-O-C number            | : 20-1041751                                      |                       |                                                                     |
| Sampler                 | : R.Lemay                                         |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 1                                               |                       |                                                                     |
| No. of samples analysed | : 1                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.



### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                     | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                   |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                   |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 117 S.S.D.F   | E420   | 28-Feb-2023   | 01-Mar-2023              | ----          | ----   |      | 02-Mar-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 848959   | 1     | 18      | 5.5           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 848959   | 1     | 18      | 5.5           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 848959   | 1     | 18      | 5.5           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 848959   | 1     | 18      | 5.5           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A4332</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : John Oliver Secondary                           | Date Samples Received   | : 28-Feb-2023 11:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 01-Mar-2023                                                       |
| C-O-C number            | : 20-1041751                                      | Issue Date              | : 02-Mar-2023 16:57                                                 |
| Sampler                 | : R.Lemay ----                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 1                                               |                         |                                                                     |
| No. of samples analysed | : 1                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 848959) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A4332-001                 | Rm. 117 S.S.D.F  | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000427        | 0.000419         | 0.000008             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 848959) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 848959) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 97.5         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 848959) |                  |             |            |        |                          |           |              |                     |      |
| VA23A4334-001                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0188 mg/L              | 0.02 mg/L | 93.8         | 70.0                | 130  |



COC Number: 20 - 1041751

**Canada Toll Free: 1 800 668 9878**

Page of

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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



# Results Summary VA23A4332

|                              |                                        |       |                      |
|------------------------------|----------------------------------------|-------|----------------------|
| Project                      | John Oliver Secondary                  |       |                      |
| Report To                    | Stephen Thomas, Vancouver School Board |       |                      |
| Date Received                | 28-Feb-2023 11:00                      |       |                      |
| Issue Date                   | 02-Mar-2023 16:57                      |       |                      |
| Amendment                    | 0                                      |       |                      |
| Client Sample ID             | Rm. 117 S.S.D.F                        |       |                      |
| Date Sampled                 | 28-Feb-2023                            |       |                      |
| Time Sampled                 | 07:53                                  |       |                      |
| ALS Sample ID                | VA23A4332-001                          |       |                      |
| Analyte                      | Lowest<br>Detection Limit              | Units | Sub-Matrix:<br>Water |
| Total Metals (Matrix: Water) |                                        |       |                      |
| Lead, total                  | 0.000050                               | mg/L  | 0.000427             |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2832</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Jules Quesnel Elementary                        | Date Samples Received   | : 07-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 09-Feb-2023                                                       |
| C-O-C number            | : 20-1041755                                      | Issue Date              | : 09-Feb-2023 20:59                                                 |
| Sampler                 | : RL                                              |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

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Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2832</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Jules Quesnel Elementary                        | Date Samples Received | : 07-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 09-Feb-2023 20:59                                                 |
| C-O-C number            | : 20-1041755                                      |                       |                                                                     |
| Sampler                 | : RL                                              |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 5                                               |                       |                                                                     |
| No. of samples analysed | : 5                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 236 Rm. 232 S.S.D.F.       | E420   | 07-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 136 S.S.D.F.      | E420   | 07-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 236 Rm. 231 Bottle Filler | E420   | 07-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 310 Rm. 333 S.S.D.F.      | E420   | 07-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Cprr. 100b Rm. 105 S.S.D.F.     | E420   | 07-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 3 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 827762   | 1     | 17      | 5.8           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 827762   | 1     | 17      | 5.8           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 827762   | 1     | 17      | 5.8           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 827762   | 1     | 17      | 5.8           | 5.0      | ✓          |





## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2832</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Jules Quesnel Elementary                        | Date Samples Received   | : 07-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 09-Feb-2023                                                       |
| C-O-C number            | : 20-1041755                                      | Issue Date              | : 09-Feb-2023 20:59                                                 |
| Sampler                 | : RL ----                                         |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 827762) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A2695-012                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 827762) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 827762) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 101          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 827762) |                  |             |            |        |                          |           |              |                     |      |
| VA23A2778-001                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0187 mg/L              | 0.02 mg/L | 93.4         | 70.0                | 130  |

[illegible]

# Results Summary VA23A2832

|                              |                                        |       |                               |                               |                              |                               |                                    |
|------------------------------|----------------------------------------|-------|-------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------------|
| Project                      | Jules Quesnel Elementary               |       |                               |                               |                              |                               |                                    |
| Report To                    | Stephen Thomas, Vancouver School Board |       |                               |                               |                              |                               |                                    |
| Date Received                | 07-Feb-2023 15:00                      |       |                               |                               |                              |                               |                                    |
| Issue Date                   | 09-Feb-2023 20:59                      |       |                               |                               |                              |                               |                                    |
| Amendment                    | 0                                      |       |                               |                               |                              |                               |                                    |
| Client Sample ID             |                                        |       | Cpr. 100b Rm. 105<br>S.S.D.F. | Corr. 100 Rm. 136<br>S.S.D.F. | Corr 236 Rm. 232<br>S.S.D.F. | Corr. 310 Rm. 333<br>S.S.D.F. | Corr. 236 Rm. 231<br>Bottle Filler |
| Date Sampled                 |                                        |       | 07-Feb-2023                   | 07-Feb-2023                   | 07-Feb-2023                  | 07-Feb-2023                   | 07-Feb-2023                        |
| Time Sampled                 |                                        |       | 07:31                         | 07:35                         | 07:41                        | 07:45                         | 07:56                              |
| ALS Sample ID                |                                        |       | VA23A2832-001                 | VA23A2832-002                 | VA23A2832-003                | VA23A2832-004                 | VA23A2832-005                      |
| Analyte                      | Lowest<br>Detection Limit              | Units | Sub-Matrix:<br>Water          | Sub-Matrix:<br>Water          | Sub-Matrix:<br>Water         | Sub-Matrix:<br>Water          | Sub-Matrix:<br>Water               |
| Total Metals (Matrix: Water) |                                        |       |                               |                               |                              |                               |                                    |
| Lead, total                  | 0.000050                               | mg/L  | 0.000090                      | 0.000121                      | 0.000103                     | 0.000082                      | <0.000050                          |

---

**CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)**

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0672</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : King George Secondary                           | Date Samples Received   | : 11-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Jan-2023                                                       |
| C-O-C number            | : 20-1041692                                      | Issue Date              | : 13-Jan-2023 23:15                                                 |
| Sampler                 | : R. Lenay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

---

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- Analytical Results
- Guideline Comparison

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

---

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| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

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Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.





Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0672</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : King George Secondary                           | Date Samples Received | : 11-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Issue Date            | : 13-Jan-2023 23:15                                                 |
| C-O-C number            | : 20-1041692                                      |                       |                                                                     |
| Sampler                 | : R. Lenay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 5                                               |                       |                                                                     |
| No. of samples analysed | : 5                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 111 S.S.D.F.      | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 144 Rm. 107 Bottle Filler | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 233A Rm. 230 S.S.D.F.     | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 325 Rm. 323 Bottle Filler | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls change Rm. 102 S.S.D.F.   | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

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## QUALITY CONTROL REPORT

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0672</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : King George Secondary                           | Date Samples Received   | : 11-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Jan-2023                                                       |
| C-O-C number            | : 20-1041692                                      | Issue Date              | : 13-Jan-2023 23:15                                                 |
| Sampler                 | : R. Lenay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

---

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 801080) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0649-008                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 801080) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |





Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 801080) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 96.4         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 801080) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0669-001                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0196 mg/L              | 0.02 mg/L | 98.2         | 70.0                | 130  |

[illegible]

# Results Summary VA23A0672

|               |                                        |
|---------------|----------------------------------------|
| Project       | King George Secondary                  |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 11-Jan-2023 15:05                      |
| Issue Date    | 13-Jan-2023 23:15                      |
| Amendment     | 0                                      |

|                              |                           |       |                               |                                    |                                  |                                |                                    |
|------------------------------|---------------------------|-------|-------------------------------|------------------------------------|----------------------------------|--------------------------------|------------------------------------|
| Client Sample ID             |                           |       | Corr. 100 Rm. 111<br>S.S.D.F. | Corr. 144 Rm. 107<br>Bottle Filler | Girls change Rm. 102<br>S.S.D.F. | Corr. 233A Rm. 230<br>S.S.D.F. | Corr. 325 Rm. 323<br>Bottle Filler |
| Date Sampled                 |                           |       | 11-Jan-2023                   | 11-Jan-2023                        | 11-Jan-2023                      | 11-Jan-2023                    | 11-Jan-2023                        |
| Time Sampled                 |                           |       | 07:35                         | 07:40                              | 07:45                            | 07:51                          | 07:57                              |
| ALS Sample ID                |                           |       | VA23A0672-001                 | VA23A0672-002                      | VA23A0672-003                    | VA23A0672-004                  | VA23A0672-005                      |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water          | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water           | Sub-Matrix:<br>Water               |
| Total Metals (Matrix: Water) |                           |       |                               |                                    |                                  |                                |                                    |
| lead, total                  | 0.000050                  | mg/L  | 0.000528                      | 0.000237                           | 0.000309                         | 0.000136                       | <0.000050                          |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3233</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : David Livingstone Elementary                    | Date Samples Received   | : 10-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Feb-2023                                                       |
| C-O-C number            | : 20-1042220                                      | Issue Date              | : 14-Feb-2023 13:10                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| <i>Signatories</i> | <i>Position</i>                         | <i>Laboratory Department</i>      |
|--------------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte       | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Matrix:

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

|             |           |      |
|-------------|-----------|------|
| Lead, total | 7439-92-1 | mg/L |
|-------------|-----------|------|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3233</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : David Livingstone Elementary                    | Date Samples Received | : 10-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 14-Feb-2023 13:10                                                 |
| C-O-C number            | : 20-1042220                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 4                                               |                       |                                                                     |
| No. of samples analysed | : 4                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.





## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)                | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 200 Rm.209A Bottle Filler | E420   | 10-Feb-2023   | 13-Feb-2023              | ----          | ----   |      | 14-Feb-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr.011 Rm.012-1 Bottle Filler | E420   | 10-Feb-2023   | 13-Feb-2023              | ----          | ----   |      | 14-Feb-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr.100 Rm.009 Bottle Filler   | E420   | 10-Feb-2023   | 13-Feb-2023              | ----          | ----   |      | 14-Feb-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr.100 Rm.111A Bottle Filler  | E420   | 10-Feb-2023   | 13-Feb-2023              | ----          | ----   |      | 14-Feb-2023   | 180 days      | 4 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832269   | 1     | 14      | 7.1           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832269   | 1     | 14      | 7.1           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832269   | 1     | 14      | 7.1           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 832269   | 1     | 14      | 7.1           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3233</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : David Livingstone Elementary                    | Date Samples Received   | : 10-Feb-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Feb-2023                                                       |
| C-O-C number            | : 20-1042220                                      | Issue Date              | : 14-Feb-2023 13:10                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 832269) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A3195-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 832269) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 832269) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 101          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 832269) |                  |             |            |        |                          |           |              |                     |      |
| VA23A3195-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0186 mg/L              | 0.02 mg/L | 93.3         | 70.0                | 130  |



COC Number: 20 - 1042220

Page of

[illegible]

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

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

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

AUG 2020 FRONT

# Results Summary VA23A3233

|               |                                        |
|---------------|----------------------------------------|
| Project       | David Livingstone Elementary           |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 10-Feb-2023 15:00                      |
| Issue Date    | 14-Feb-2023 13:11                      |
| Amendment     | 0                                      |

|                              |                           |       |                                    |                                  |                                   |                                    |
|------------------------------|---------------------------|-------|------------------------------------|----------------------------------|-----------------------------------|------------------------------------|
| Client Sample ID             |                           |       | Corr.011 Rm.012-1<br>Bottle Filler | Corr.100 Rm.009<br>Bottle Filler | Corr.100 Rm.111A<br>Bottle Filler | Corr. 200 Rm.209A<br>Bottle Filler |
| Date Sampled                 |                           |       | 10-Feb-2023                        | 10-Feb-2023                      | 10-Feb-2023                       | 10-Feb-2023                        |
| Time Sampled                 |                           |       | 08:34                              | 08:38                            | 08:46                             | 08:49                              |
| ALS Sample ID                |                           |       | VA23A3233-001                      | VA23A3233-002                    | VA23A3233-003                     | VA23A3233-004                      |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water              | Sub-Matrix:<br>Water               |
| Total Metals (Matrix: Water) |                           |       |                                    |                                  |                                   |                                    |
| Lead, total                  | 0.000050                  | mg/L  | 0.000111                           | 0.000416                         | 0.000082                          | 0.000135                           |



---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0669</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : David Llyod George                              | Date Samples Received   | : 11-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Jan-2023                                                       |
| C-O-C number            | : 20-1041688                                      | Issue Date              | : 13-Jan-2023 23:16                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 10                                              |                         |                                                                     |
| No. of samples analysed | : 10                                              |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0669</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : David Llyod George                              | Date Samples Received | : 11-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Issue Date            | : 13-Jan-2023 23:16                                                 |
| C-O-C number            | : 20-1041688                                      |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 10                                              |                       |                                                                     |
| No. of samples analysed | : 10                                              |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                  | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys change room 104 DF        | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 121 Rm 116 DF             | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 125 Rm 128 DF             | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 200 Rm 202B Bottle Filler | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 200 Rm 207 DF             | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 210 Rm 210A DF            | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 301 Rm 304                | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)         | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|----------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                          |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                          |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS        |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 301 Rm 313          | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS        |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls change room 113 DF | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS        |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Play area 123 Rm 131 DF  | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |

**Legend & Qualifier Definitions**

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |





## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0669</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : David Llyod George                              | Date Samples Received   | : 11-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Jan-2023                                                       |
| C-O-C number            | : 20-1041688                                      | Issue Date              | : 13-Jan-2023 23:16                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 10                                              |                         |                                                                     |
| No. of samples analysed | : 10                                              |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 801080) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0649-008                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 801080) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 801080) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 96.4         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                          |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|--------------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                          |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID         | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 801080) |                          |             |            |        |                          |           |              |                     |      |
| VA23A0669-001                | Girls change room 113 DF | lead, total | 7439-92-1  | E420   | 0.0196 mg/L              | 0.02 mg/L | 98.2         | 70.0                | 130  |



Results Summary VA23A0669

Project

Report To

Date Received

Issue Date

Amendment

David Llyod George

Stephen Thomas, Vancouver School Board

11-Jan-2023 15:05

13-Jan-2023 23:16

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| Client Sample ID                             |                        |       | Girls change room 113 DF | Boys change room 104 DF | Corr 121 Rm 116 DF | Play area 123 Rm 131 DF | Corr 125 Rm 128 DF | Corr 200 Rm 202B Bottle Filler | Corr 200 Rm 207 DF | Corr 210 Rm 210A DF | Corr 301 Rm 313   | Corr 301 Rm 304   |
|----------------------------------------------|------------------------|-------|--------------------------|-------------------------|--------------------|-------------------------|--------------------|--------------------------------|--------------------|---------------------|-------------------|-------------------|
| Date Sampled                                 |                        |       | 11-Jan-2023              | 11-Jan-2023             | 11-Jan-2023        | 11-Jan-2023             | 11-Jan-2023        | 11-Jan-2023                    | 11-Jan-2023        | 11-Jan-2023         | 11-Jan-2023       | 11-Jan-2023       |
| Time Sampled                                 |                        |       | 07:03                    | 07:04                   | 07:10              | 07:12                   | 07:14              | 07:16                          | 07:21              | 07:23               | 07:27             | 07:29             |
| ALS Sample ID                                |                        |       | VA23A0669-001            | VA23A0669-002           | VA23A0669-003      | VA23A0669-004           | VA23A0669-005      | VA23A0669-006                  | VA23A0669-007      | VA23A0669-008       | VA23A0669-009     | VA23A0669-010     |
| Analyte                                      | Lowest Detection Limit | Units | Sub-Matrix: Water        | Sub-Matrix: Water       | Sub-Matrix: Water  | Sub-Matrix: Water       | Sub-Matrix: Water  | Sub-Matrix: Water              | Sub-Matrix: Water  | Sub-Matrix: Water   | Sub-Matrix: Water | Sub-Matrix: Water |
| <a href="#">Total Metals (Matrix: Water)</a> |                        |       |                          |                         |                    |                         |                    |                                |                    |                     |                   |                   |
| lead, total                                  | 0.000050               | mg/L  | 0.00117                  | 0.000278                | 0.000769           | 0.000821                | 0.000071           | 0.000227                       | 0.000151           | 0.00124             | 0.00131           | 0.000317          |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0671</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Roberts Annex Elementary                   | Date Samples Received   | : 11-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Jan-2023                                                       |
| C-O-C number            | : 20-1041691                                      | Issue Date              | : 13-Jan-2023 23:15                                                 |
| Sampler                 | : R. Lenay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

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### Signatories

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

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.





Analytical Results Evaluation

Matrix:

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| Matrix: | Client sample ID   |      | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sampling date/time |      | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sub-Matrix         |      | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Analyte | CAS Number         | Unit | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
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## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0671</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Lord Roberts Annex Elementary                   | Date Samples Received | : 11-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Issue Date            | : 13-Jan-2023 23:15                                                 |
| C-O-C number            | : 20-1041691                                      |                       |                                                                     |
| Sampler                 | : R. Lenay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 2                                               |                       |                                                                     |
| No. of samples analysed | : 2                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 118 Bottle Filler | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 126 D.F.          | E420   | 11-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 13-Jan-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801080   | 1     | 19      | 5.2           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0671</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Roberts Annex Elementary                   | Date Samples Received   | : 11-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Jan-2023                                                       |
| C-O-C number            | : 20-1041691                                      | Issue Date              | : 13-Jan-2023 23:15                                                 |
| Sampler                 | : R. Lenay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 801080) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0649-008                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 801080) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |





Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 801080) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 96.4         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 801080) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0669-001                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0196 mg/L              | 0.02 mg/L | 98.2         | 70.0                | 130  |

Environmental Division  
Vancouver  
Work Order Reference  
**VA23A0671**



Telephone : +1 604 253 4189

Telephone : +1 604 253 4186

**Environmental Division**  
**Vancouver**  
Work Order Reference  
**VA23A0671**

VA23A0671

|                                     |
|-------------------------------------|
| <b>SAMPLES ON HOLD</b>              |
| <b>EXTENDED STORAGE REQUIRED</b>    |
| <b>SUSPECTED HAZARD (see notes)</b> |

## Results Summary VA23A0671

|                      |                                        |
|----------------------|----------------------------------------|
| <b>Project</b>       | Lord Roberts Annex Elementary          |
| <b>Report To</b>     | Stephen Thomas, Vancouver School Board |
| <b>Date Received</b> | 11-Jan-2023 15:05                      |
| <b>Issue Date</b>    | 13-Jan-2023 23:16                      |
| <b>Amendment</b>     | 0                                      |

|                                     |                           |       |                                    |                           |
|-------------------------------------|---------------------------|-------|------------------------------------|---------------------------|
| Client Sample ID                    |                           |       | Corr. 100 Rm. 118<br>Bottle Filler | Corr. 100 Rm. 126<br>D.F. |
| Date Sampled                        |                           |       | 11-Jan-2023                        | 11-Jan-2023               |
| Time Sampled                        |                           |       | 08:14                              | 08:21                     |
| ALS Sample ID                       |                           |       | VA23A0671-001                      | VA23A0671-002             |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water      |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                                    |                           |
| lead, total                         | 0.000050                  | mg/L  | 0.000130                           | 0.000575                  |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0745</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Roberts Elementary                         | Date Samples Received   | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 14-Jan-2023                                                       |
| C-O-C number            | : 20-104694                                       | Issue Date              | : 16-Jan-2023 21:13                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 9                                               |                         |                                                                     |
| No. of samples analysed | : 9                                               |                         |                                                                     |

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0745</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Lord Roberts Elementary                         | Date Samples Received | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Issue Date            | : 16-Jan-2023 21:13                                                 |
| C-O-C number            | : 20-104694                                       |                       |                                                                     |
| Sampler                 | : ----                                            |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 9                                               |                       |                                                                     |
| No. of samples analysed | : 9                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.





## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                        | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|----------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                      |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                      |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys Change Rm. 513 D.F.             | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Building 21B Corr. 006 D.F.          | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Building 21B Corr. 100 Rm. 100A D.F. | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Building 21B Corr. 200 Rm. 207 D.F.  | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 016 Rm. 007 S.S.D.F.           | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 106 Bottle Filler      | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 213 Rm. 210 Bottle Filler      | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |

Page : 4 of 6  
 Work Order : VA23A0745  
 Client : Vancouver School Board  
 Project : Lord Roberts Elementary



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)           | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                            |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                            |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 311 Rm. 305 S.S.D.F. | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls Change Rm. 507 D.F.  | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |

Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0745</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Roberts Elementary                         | Date Samples Received   | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 14-Jan-2023                                                       |
| C-O-C number            | : 20-104694                                       | Issue Date              | : 16-Jan-2023 21:13                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 9                                               |                         |                                                                     |
| No. of samples analysed | : 9                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 801476) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| KS2300097-001                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000500                          | mg/L | <0.000500       | <0.000500        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 801476) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 801476) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 801476) |                  |             |            |        |                          |           |              |                     |      |
| KS2300097-002                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0189 mg/L              | 0.02 mg/L | 94.6         | 70.0                | 130  |



COC Number: 20 - 1041694

**Canada Toll Free: 1 800 668 9878**

Page of

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 2020 FROM

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

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



Results Summary VA23A0745

|                              |                                        |       |                               |                                    |                                    |                               |                                |                                         |                                        |                              |                             |  |
|------------------------------|----------------------------------------|-------|-------------------------------|------------------------------------|------------------------------------|-------------------------------|--------------------------------|-----------------------------------------|----------------------------------------|------------------------------|-----------------------------|--|
| Project                      | Lord Roberts Elementary                |       |                               |                                    |                                    |                               |                                |                                         |                                        |                              |                             |  |
| Report To                    | Stephen Thomas, Vancouver School Board |       |                               |                                    |                                    |                               |                                |                                         |                                        |                              |                             |  |
| Date Received                | 12-Jan-2023 15:05                      |       |                               |                                    |                                    |                               |                                |                                         |                                        |                              |                             |  |
| Issue Date                   | 16-Jan-2023 21:14                      |       |                               |                                    |                                    |                               |                                |                                         |                                        |                              |                             |  |
| Amendment                    | 0                                      |       |                               |                                    |                                    |                               |                                |                                         |                                        |                              |                             |  |
|                              |                                        |       | Corr. 016 Rm. 007<br>S.S.D.F. | Corr. 100 Rm. 106<br>Bottle Filler | Corr. 213 Rm. 210<br>Bottle Filler | Corr. 311 Rm. 305<br>S.S.D.F. | Building 21B Corr. 006<br>D.F. | Building 21B Corr. 100<br>Rm. 100A D.F. | Building 21B Corr. 200<br>Rm. 207 D.F. | Girls Change Rm. 507<br>D.F. | Boys Change Rm. 513<br>D.F. |  |
| Client Sample ID             |                                        |       | 12-Jan-2023                   | 12-Jan-2023                        | 12-Jan-2023                        | 12-Jan-2023                   | 12-Jan-2023                    | 12-Jan-2023                             | 12-Jan-2023                            | 12-Jan-2023                  | 12-Jan-2023                 |  |
| Date Sampled                 |                                        |       | 07:23                         | 07:37                              | 07:41                              | 07:45                         | 07:51                          | 07:57                                   | 08:00                                  | 08:04                        | 08:10                       |  |
| Time Sampled                 |                                        |       | VA23A0745-001                 | VA23A0745-002                      | VA23A0745-003                      | VA23A0745-004                 | VA23A0745-005                  | VA23A0745-006                           | VA23A0745-007                          | VA23A0745-008                | VA23A0745-009               |  |
| ALS Sample ID                |                                        |       | Sub-Matrix:<br>Water          | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water          | Sub-Matrix:<br>Water           | Sub-Matrix:<br>Water                    | Sub-Matrix:<br>Water                   | Sub-Matrix:<br>Water         | Sub-Matrix:<br>Water        |  |
| Analyte                      | Lowest<br>Detection Limit              | Units |                               |                                    |                                    |                               |                                |                                         |                                        |                              |                             |  |
| Total Metals (Matrix: Water) |                                        |       |                               |                                    |                                    |                               |                                |                                         |                                        |                              |                             |  |
| lead, total                  | 0.000050                               | mg/L  | 0.000062                      | <0.000050                          | 0.000545                           | 0.000267                      | 0.000637                       | 0.000470                                | 0.000383                               | 0.00595                      | 0.000892                    |  |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0501</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Dr. H.N. MacCorkindale Elementary               | Date Samples Received   | : 10-Jan-2023 14:50                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 12-Jan-2023                                                       |
| C-O-C number            | : 20-1041690                                      | Issue Date              | : 12-Jan-2023 13:11                                                 |
| Sampler                 | : R.Lenay                                         |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|         |                    |      |       |       |       |       |       |       |       |
|---------|--------------------|------|-------|-------|-------|-------|-------|-------|-------|
| Matrix: | Client sample ID   |      | ----  | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sampling date/time |      | ----  | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sub-Matrix         |      | ----  | ----- | ----- | ----- | ----- | ----- | ----- |
| Analyte | CAS Number         | Unit | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
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## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0501</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Dr. H.N. MacCorkindale Elementary               | Date Samples Received | : 10-Jan-2023 14:50                                                 |
| PO                      | : ----                                            | Issue Date            | : 12-Jan-2023 13:11                                                 |
| C-O-C number            | : 20-1041690                                      |                       |                                                                     |
| Sampler                 | : R.Lenay                                         |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : ----                                            |                       |                                                                     |
| No. of samples received | : 5                                               |                       |                                                                     |
| No. of samples analysed | : 5                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys change Room 160 D.F.       | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 122 Rm. 131 S.S.D.F       | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 141 Rm. 139 Bottle Filler | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Entry Rm. 158                   | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls change Room 157 D.F.      | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 799367   | 1     | 13      | 7.6           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 799367   | 1     | 13      | 7.6           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 799367   | 1     | 13      | 7.6           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 799367   | 1     | 13      | 7.6           | 5.0      | ✓          |





## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0501</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Dr. H.N. MacCorkindale Elementary               | Date Samples Received   | : 10-Jan-2023 14:50                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 12-Jan-2023                                                       |
| C-O-C number            | : 20-1041690                                      | Issue Date              | : 12-Jan-2023 13:11                                                 |
| Sampler                 | : R.Lenay ----                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                            |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|----------------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID           | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 799367) |                            |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0501-001                 | Girls change Room 157 D.F. | lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.00344         | 0.00348          | 0.882%               | 20%              | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 799367) |            |        |         |      |           |           |
| lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 799367) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 104          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                           |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|---------------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                           |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID          | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 799367) |                           |             |            |        |                          |           |              |                     |      |
| VA23A0501-002                | Boys change Room 160 D.F. | lead, total | 7439-92-1  | E420   | 0.0200 mg/L              | 0.02 mg/L | 99.9         | 70.0                | 130  |



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## Chain of Custody (COC) / Analytical Request Form

COC Number: 20-1041690

Canada Toll Free: 1-800-668-9878

Page of

|                                                                                    |                                                                                                 |                                                                                                                                                                                                                                    |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                              |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------|
| <b>Report To</b><br>Contact and company name below will appear on the final report |                                                                                                 | <b>Reports / Recipients</b>                                                                                                                                                                                                        |                                                                                                               | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |         | <b>AFFIX ALS BARCODE LABEL HERE</b><br>(ALS use only)                        |
| Company:                                                                           | Vancouver School Board                                                                          | Select Report Format:                                                                                                                                                                                                              | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply<br><input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum<br><input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum<br><input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum<br><input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum<br><input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |         |                                                                              |
| Contact:                                                                           | Stephen Thomas                                                                                  | Merge QC/QCI Reports with COA                                                                                                                                                                                                      | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                              |
| Phone:                                                                             | 604-713-5637                                                                                    | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked<br>Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                              |
| Company address below will appear on the final report                              |                                                                                                 | Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                                                                                                             |                                                                                                               | Date and Time Required for all E&P TATs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         | dd-mm-yy hh:mm am/pm                                                         |
| Street:                                                                            | 1549 Clark Drive                                                                                | Email 1 or Fax:                                                                                                                                                                                                                    | ssstomas@usb.bc.ca                                                                                            | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |                                                                              |
| City/Province:                                                                     | Vancouver B.C.                                                                                  | Email 2:                                                                                                                                                                                                                           | ccarrell@usb.bc.ca                                                                                            | <b>Analysis Request</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |                                                                              |
| Postal Code:                                                                       |                                                                                                 | Email 3:                                                                                                                                                                                                                           | jduong@usb.bc.ca                                                                                              | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |         |                                                                              |
| Invoice To:                                                                        | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO           | Invoice Recipients                                                                                                                                                                                                                 |                                                                                                               | NUMBER OF CONTAINERS<br>Lead                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         | SAMPLES ON HOLD<br>EXTENDED STORAGE REQUIRED<br>SUSPECTED HAZARD (see notes) |
| Company:                                                                           | Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                                                                                                             |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                              |
| Contact:                                                                           |                                                                                                 | Email 1 or Fax                                                                                                                                                                                                                     |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                              |
|                                                                                    |                                                                                                 | Email 2                                                                                                                                                                                                                            |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                              |
| <b>Project Information</b>                                                         |                                                                                                 | <b>Oil and Gas Required Fields (client use)</b>                                                                                                                                                                                    |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                              |
| ALS Account # / Quote #:                                                           |                                                                                                 | AFE/Cost Center:                                                                                                                                                                                                                   |                                                                                                               | PO#                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         |                                                                              |
| Job #: Dr. H.N. MacCorkindale Elementary                                           |                                                                                                 | Major/Minor Code:                                                                                                                                                                                                                  |                                                                                                               | Routing Code:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |                                                                              |
| PO / AFE:                                                                          |                                                                                                 | Requisitioner:                                                                                                                                                                                                                     |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                              |
| LSD:                                                                               |                                                                                                 | Location:                                                                                                                                                                                                                          |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                              |
| ALS Lab Work Order # (ALS use only):                                               |                                                                                                 | ALS Contact: T. Tarannum                                                                                                                                                                                                           |                                                                                                               | Sampler: R. Lenay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |         |                                                                              |
| ALS Sample # (ALS use only)                                                        | Sample Identification and/or Coordinates<br>(This description will appear on the report)        | Date<br>(dd-mm-yy)                                                                                                                                                                                                                 | Time<br>(hh:mm)                                                                                               | Sample Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |         |                                                                              |
|                                                                                    | Girls change Room 157 D.F.                                                                      | 10-01-23                                                                                                                                                                                                                           | 7:34                                                                                                          | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |                                                                              |
|                                                                                    | Boys change Room 160 D.F.                                                                       | 10-01-23                                                                                                                                                                                                                           | 7:37                                                                                                          | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |                                                                              |
|                                                                                    | Entry Rm. 158 D.F.                                                                              | 10-01-23                                                                                                                                                                                                                           | 7:42                                                                                                          | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |                                                                              |
|                                                                                    | Corr. 141 Rm. 139 Bottle Filler                                                                 | 10-01-23                                                                                                                                                                                                                           | 7:47                                                                                                          | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |                                                                              |
|                                                                                    | Corr. 122 Rm. 131 S.S.D.F.                                                                      | 10-01-23                                                                                                                                                                                                                           | 7:51                                                                                                          | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |                                                                              |
| <b>Drinking Water (DW) Samples (client use)</b>                                    |                                                                                                 | Notes / Specify Limits for result evaluation by selecting from drop-down below<br>(Excel COC only)                                                                                                                                 |                                                                                                               | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |                                                                              |
| Are samples taken from a Regulated DW System?                                      |                                                                                                 | No preservatives added                                                                                                                                                                                                             |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input checked="" type="checkbox"/> ICE <input type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         |                                                                              |
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                |                                                                                                 |                                                                                                                                                                                                                                    |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |                                                                              |
| Are samples for human consumption/ use?                                            |                                                                                                 |                                                                                                                                                                                                                                    |                                                                                                               | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |                                                                              |
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                |                                                                                                 |                                                                                                                                                                                                                                    |                                                                                                               | INITIAL COOLER TEMPERATURES °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |                                                                              |
|                                                                                    |                                                                                                 |                                                                                                                                                                                                                                    |                                                                                                               | FINAL COOLER TEMPERATURES °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |                                                                              |
| <b>SHIPMENT RELEASE (client use)</b>                                               |                                                                                                 | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                   |                                                                                                               | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |                                                                              |
| Released by:                                                                       | Date:                                                                                           | Time:                                                                                                                                                                                                                              | Received by:                                                                                                  | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Time:   |                                                                              |
|                                                                                    |                                                                                                 |                                                                                                                                                                                                                                    |                                                                                                               | 21/10/23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2:50 PM |                                                                              |



White Paper Co. 604 951-3900

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

ALS 7028 FRONT

Results Summary VA23A0501

|                              |                                        |       |                               |                              |                      |                                    |                              |
|------------------------------|----------------------------------------|-------|-------------------------------|------------------------------|----------------------|------------------------------------|------------------------------|
| Project                      | Dr. H.N. MacCorkindale Elementary      |       |                               |                              |                      |                                    |                              |
| Report To                    | Stephen Thomas, Vancouver School Board |       |                               |                              |                      |                                    |                              |
| Date Received                | 10-Jan-2023 14:50                      |       |                               |                              |                      |                                    |                              |
| Issue Date                   | 12-Jan-2023 13:11                      |       |                               |                              |                      |                                    |                              |
| Amendment                    | 0                                      |       |                               |                              |                      |                                    |                              |
| Client Sample ID             |                                        |       | Girls change Room<br>157 D.F. | Boys change Room<br>160 D.F. | Entry Rm. 158        | Corr. 141 Rm. 139<br>Bottle Filler | Corr. 122 Rm. 131<br>S.S.D.F |
| Date Sampled                 |                                        |       | 10-Jan-2023                   | 10-Jan-2023                  | 10-Jan-2023          | 10-Jan-2023                        | 10-Jan-2023                  |
| Time Sampled                 |                                        |       | 07:34                         | 07:37                        | 07:42                | 07:47                              | 07:51                        |
| ALS Sample ID                |                                        |       | VA23A0501-001                 | VA23A0501-002                | VA23A0501-003        | VA23A0501-004                      | VA23A0501-005                |
| Analyte                      | Lowest<br>Detection Limit              | Units | Sub-Matrix:<br>Water          | Sub-Matrix:<br>Water         | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water         |
| Total Metals (Matrix: Water) |                                        |       |                               |                              |                      |                                    |                              |
| lead, total                  | 0.000050                               | mg/L  | 0.00344                       | 0.00191                      | 0.00154              | 0.000435                           | 0.000565                     |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2499</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Maple Grove Elementary Swing Space              | Date Samples Received   | : 02-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 04-Feb-2023                                                       |
| C-O-C number            | : 20-980490                                       | Issue Date              | : 06-Feb-2023 09:41                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 8                                               |                         |                                                                     |
| No. of samples analysed | : 8                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.





Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2499</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Maple Grove Elementary Swing Space              | Date Samples Received | : 02-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Issue Date            | : 06-Feb-2023 09:41                                                 |
| C-O-C number            | : 20-980490                                       |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 8                                               |                       |                                                                     |
| No. of samples analysed | : 8                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys change Rm. 216 D.F         | E420   | 02-Feb-2023   | 04-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 110F Rm. 102 S.S.D.F.     | E420   | 02-Feb-2023   | 04-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 110F. Rm. 104 S.S.D.F.    | E420   | 02-Feb-2023   | 04-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 200 Rm. 205 Bottle Filler | E420   | 02-Feb-2023   | 04-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 200K Rm. 216 D.F.         | E420   | 02-Feb-2023   | 04-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 300 Rm. 317 D.F.          | E420   | 02-Feb-2023   | 04-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls change Rm. 130 D.F.       | E420   | 02-Feb-2023   | 04-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 3 days | ✓    |

Page : 4 of 6  
 Work Order : VA23A2499  
 Client : Vancouver School Board  
 Project : Maple Grove Elementary Swing Space



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                     | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| Container / Client Sample ID(s)                   |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                   |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
|                                                   |        |               |                          |               |        |      |               |               |        |      |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 121 D.F.      | E420   | 02-Feb-2023   | 04-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 3 days | ✓    |

**Legend & Qualifier Definitions**

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 823529   | 1     | 15      | 6.6           | 5.0      | ✔          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 823529   | 1     | 15      | 6.6           | 5.0      | ✔          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 823529   | 1     | 15      | 6.6           | 5.0      | ✔          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 823529   | 1     | 15      | 6.6           | 5.0      | ✔          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2499</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Maple Grove Elementary Swing Space              | Date Samples Received   | : 02-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 04-Feb-2023                                                       |
| C-O-C number            | : 20-980490                                       | Issue Date              | : 06-Feb-2023 09:41                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 8                                               |                         |                                                                     |
| No. of samples analysed | : 8                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |





General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 823529) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A2421-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000100                          | mg/L | 0.000173        | 0.000103         | 0.000070             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 823529) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

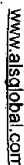
|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 823529) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 823529) |                  |             |            |        |                          |           |              |                     |      |
| VA23A2468-001                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0182 mg/L              | 0.02 mg/L | 91.0         | 70.0                | 130  |



**Canada Toll Free: 1 800 668 9878**

Page 1 of 1

### Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 980490

[illegible]

Results Summary VA23A2499

Project Maple Grove Elementary Swing Space  
Report To Stephen Thomas, Vancouver School Board  
Date Received 02-Feb-2023 14:45  
Issue Date 06-Feb-2023 09:42  
Amendment 0

|                              |                           |       |                                |                                 |                           |                                    |                            |                            |                              |                      |
|------------------------------|---------------------------|-------|--------------------------------|---------------------------------|---------------------------|------------------------------------|----------------------------|----------------------------|------------------------------|----------------------|
| Client Sample ID             |                           |       | Corr. 110F Rm. 102<br>S.S.D.F. | Corr. 110F. Rm. 104<br>S.S.D.F. | Corr. 300 Rm. 317<br>D.F. | Corr. 200 Rm. 205<br>Bottle Filler | Corr. 200K Rm. 216<br>D.F. | Boys change Rm. 216<br>D.F | Girls change Rm. 130<br>D.F. | Rm. 121 D.F.         |
| Date Sampled                 |                           |       | 02-Feb-2023                    | 02-Feb-2023                     | 02-Feb-2023               | 02-Feb-2023                        | 02-Feb-2023                | 02-Feb-2023                | 02-Feb-2023                  | 02-Feb-2023          |
| Time Sampled                 |                           |       | 07:36                          | 07:39                           | 07:44                     | 07:48                              | 07:51                      | 07:54                      | 07:57                        | 08:01                |
| ALS Sample ID                |                           |       | VA23A2499-001                  | VA23A2499-002                   | VA23A2499-003             | VA23A2499-004                      | VA23A2499-005              | VA23A2499-006              | VA23A2499-007                | VA23A2499-008        |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water           | Sub-Matrix:<br>Water            | Sub-Matrix:<br>Water      | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water       | Sub-Matrix:<br>Water       | Sub-Matrix:<br>Water         | Sub-Matrix:<br>Water |
| Total Metals (Matrix: Water) |                           |       |                                |                                 |                           |                                    |                            |                            |                              |                      |
| Lead, total                  | 0.000050                  | mg/L  | 0.00891                        | 0.00669                         | 0.00670                   | 0.000072                           | 0.00773                    | 0.00708                    | 0.0105                       | 0.00286              |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2501</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Maple Grove Elementary (New)                    | Date Samples Received   | : 02-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 04-Feb-2023                                                       |
| C-O-C number            | : 20-980489                                       | Issue Date              | : 06-Feb-2023 09:42                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2501</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Maple Grove Elementary (New)                    | Date Samples Received | : 02-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Issue Date            | : 06-Feb-2023 09:42                                                 |
| C-O-C number            | : 20-980489                                       |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 3                                               |                       |                                                                     |
| No. of samples analysed | : 3                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.



### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)                | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 105 Rm. 116 Bottle Filler | E420   | 02-Feb-2023   | 04-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 112 Bottle Filler         | E420   | 02-Feb-2023   | 04-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 203 Bottle Filler         | E420   | 02-Feb-2023   | 04-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 3 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 823529   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 823529   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 823529   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 823529   | 1     | 15      | 6.6           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2501</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Maple Grove Elementary (New)                    | Date Samples Received   | : 02-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 04-Feb-2023                                                       |
| C-O-C number            | : 20-980489                                       | Issue Date              | : 06-Feb-2023 09:42                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 823529) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A2421-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000100                          | mg/L | 0.000173        | 0.000103         | 0.000070             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 823529) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 823529) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 823529) |                  |             |            |        |                          |           |              |                     |      |
| VA23A2468-001                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0182 mg/L              | 0.02 mg/L | 91.0         | 70.0                | 130  |



COC Number: 20 - 980489

**Canada Toll Free: 1 800 668 9878**

Page of

[illegible]

White Paper Co. 604 951-3900

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

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

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

AUG 2020 EPO



## Results Summary VA23A2501

**Project** Maple Grove Elementary (New)  
**Report To** Stephen Thomas, Vancouver School Board  
**Date Received** 02-Feb-2023 14:45  
**Issue Date** 06-Feb-2023 09:42  
**Amendment** 0

| Client Sample ID                    |                           |       | Corr. 203 Bottle Filler | Corr. 105 Rm. 116<br>Bottle Filler | Corr. 112 Bottle Filler |
|-------------------------------------|---------------------------|-------|-------------------------|------------------------------------|-------------------------|
| Date Sampled                        |                           |       | 02-Feb-2023             | 02-Feb-2023                        | 02-Feb-2023             |
| Time Sampled                        |                           |       | 08:12                   | 08:10                              | 08:08                   |
| ALS Sample ID                       |                           |       | VA23A2501-001           | VA23A2501-002                      | VA23A2501-003           |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water    | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water    |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                         |                                    |                         |
| Lead, total                         | 0.000050                  | mg/L  | 0.000068                | 0.000087                           | 0.000090                |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0332</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Sir Richard McBride Annex Elementary            | Date Samples Received   | : 06-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 08-Jan-2023                                                       |
| C-O-C number            | : 20-1039093                                      | Issue Date              | : 09-Jan-2023 09:55                                                 |
| Sampler                 | : Robin LeMay                                     |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0332</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Sir Richard McBride Annex Elementary            | Date Samples Received | : 06-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 09-Jan-2023 09:31                                                 |
| C-O-C number            | : 20-1039093                                      |                       |                                                                     |
| Sampler                 | : Robin LeMay                                     |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : ----                                            |                       |                                                                     |
| No. of samples received | : 3                                               |                       |                                                                     |
| No. of samples analysed | : 3                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)              | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 Rm 113 DF            | E420   | 06-Jan-2023   | 08-Jan-2023              | ----          | ----   |      | 09-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 Rm110 Bottles Filler | E420   | 06-Jan-2023   | 08-Jan-2023              | ----          | ----   |      | 09-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm 112 DF           | E420   | 06-Jan-2023   | 08-Jan-2023              | ----          | ----   |      | 09-Jan-2023   | 180 days      | 3 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796249   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796249   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796249   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796249   | 1     | 15      | 6.6           | 5.0      | ✓          |





## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0332</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Sir Richard McBride Annex Elementary            | Date Samples Received   | : 06-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 08-Jan-2023                                                       |
| C-O-C number            | : 20-1039093                                      | Issue Date              | : 09-Jan-2023 09:28                                                 |
| Sampler                 | : Robin LeMay_---                                 |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 796249) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0316-001                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 796249) |            |        |         |      |           |           |
| lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 796249) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 94.6         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 796249) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0316-002                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0182 mg/L              | 0.02 mg/L | 91.0         | 70.0                | 130  |



COC Number: 20 - 1039093

**Canada Toll Free: 1 800 668 9878**

Page of

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

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

1. If any water samples are taken from a **Regulated Drinking Water (RDW) System**, please submit using an **Authorized SW-006 form**.

AUG 2020 FROM

## Results Summary VA23A0332

**Project** Sir Richard McBride Annex Elementary  
**Report To** Stephen Thomas, Vancouver School Board  
**Date Received** 06-Jan-2023 15:00  
**Issue Date** 09-Jan-2023 09:56  
**Amendment** 0

| Client Sample ID                    |                           |       | Corr. 100 Rm 112 DF  | Corr 100 Rm110<br>Bottles Filler | Corr 100 Rm 113 DF   |
|-------------------------------------|---------------------------|-------|----------------------|----------------------------------|----------------------|
| Date Sampled                        |                           |       | 06-Jan-2023          | 06-Jan-2023                      | 06-Jan-2023          |
| Time Sampled                        |                           |       | 08:11                | 08:17                            | 08:18                |
| ALS Sample ID                       |                           |       | VA23A0332-001        | VA23A0332-002                    | VA23A0332-003        |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                      |                                  |                      |
| lead, total                         | 0.000050                  | mg/L  | 0.00121              | 0.000193                         | 0.00107              |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0851</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Walter Moberly Elementary                       | Date Samples Received   | : 13-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 15-Jan-2023                                                       |
| C-O-C number            | : 20-1041685                                      | Issue Date              | : 16-Jan-2023 14:16                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 6                                               |                         |                                                                     |
| No. of samples analysed | : 6                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| <i>Signatories</i> | <i>Position</i>             | <i>Laboratory Department</i>      |
|--------------------|-----------------------------|-----------------------------------|
| Kim Jensen         | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.





Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0851</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Walter Moberly Elementary                       | Date Samples Received | : 13-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Issue Date            | : 16-Jan-2023 14:16                                                 |
| C-O-C number            | : 20-1041685                                      |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 6                                               |                       |                                                                     |
| No. of samples analysed | : 6                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                 | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 050 Rm 007 DF            | E420   | 13-Jan-2023   | 15-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 3 days | ✔    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 067 016B Bottle Filler   | E420   | 13-Jan-2023   | 15-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 3 days | ✔    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 127 Rm 110 Bottle Filler | E420   | 13-Jan-2023   | 15-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 3 days | ✔    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 164 Rm 161 SSDF          | E420   | 13-Jan-2023   | 15-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 3 days | ✔    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 225 Rm 208 DF            | E420   | 13-Jan-2023   | 15-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 3 days | ✔    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Lobby 045 SSDF                | E420   | 13-Jan-2023   | 15-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 3 days | ✔    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 802624   | 1     | 14      | 7.1           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 802624   | 1     | 14      | 7.1           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 802624   | 1     | 14      | 7.1           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 802624   | 1     | 14      | 7.1           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0851</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Walter Moberly Elementary                       | Date Samples Received   | : 13-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 15-Jan-2023                                                       |
| C-O-C number            | : 20-1041685                                      | Issue Date              | : 16-Jan-2023 14:16                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 6                                               |                         |                                                                     |
| No. of samples analysed | : 6                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 802624) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0844-001                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000250                          | mg/L | <0.000250       | <0.000250        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 802624) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |





Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 802624) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 99.5         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 802624) |                  |             |            |        |                          |           |              |                     |      |
| KS2300114-002                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0179 mg/L              | 0.02 mg/L | 89.4         | 70.0                | 130  |



www.alsglobal.com

# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 1041685

Page of

|                                                                                    |                                                                                       |                                                                                                                                                                                                                                    |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |             |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------|-------------|
| <b>Report To</b><br>Contact and company name below will appear on the final report |                                                                                       | <b>Reports / Recipients</b>                                                                                                                                                                                                        |                                                                                                               | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       | <b>AFFIX ALS BARCODE LABEL HERE</b><br>(ALS use only) |             |
| Company:                                                                           | VANCOUVER SCHOOL BOARD                                                                | Select Report Format:                                                                                                                                                                                                              | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply<br><input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum<br><input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum<br><input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum<br><input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum<br><input type="checkbox"/> Same day [E2] if received by 10am M-F - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |       |                                                       |             |
| Contact:                                                                           | STEPHEN THOMAS                                                                        | Merge QC/QCI Reports with COA                                                                                                                                                                                                      | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |             |
| Phone:                                                                             | 604-713-5637                                                                          | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked<br>Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX |                                                                                                               | Date and Time Required for all E&P TATs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       | dd-mm-yy hh:mm am/pm                                  |             |
| Company address below will appear on the final report                              |                                                                                       | Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                                                                                                             |                                                                                                               | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                       |             |
| Street:                                                                            | 1549 Clark drive                                                                      | Email 1 or Fax:                                                                                                                                                                                                                    | SSTHOMAS@VSB.bc.ca                                                                                            | <b>Analysis Request</b><br>Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |             |
| City/Province:                                                                     | VANCOUVER BC                                                                          | Email 2:                                                                                                                                                                                                                           | Ccarrell@Vsb.bc.ca                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |             |
| Postal Code:                                                                       |                                                                                       | Email 3:                                                                                                                                                                                                                           | Jduong@Vsb.bc.ca                                                                                              | NUMBER OF CONTAINERS<br>LEAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |                                                       |             |
| Invoice To:                                                                        | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                                                                                                             |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |             |
| Company:                                                                           |                                                                                       | Email 1 or Fax:                                                                                                                                                                                                                    |                                                                                                               | SAMPLES ON HOLD<br>EXTENDED STORAGE REQUIRED<br>SUSPECTED HAZARD (see notes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |                                                       |             |
| Contact:                                                                           |                                                                                       | Email 2:                                                                                                                                                                                                                           |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |             |
| <b>Project Information</b>                                                         |                                                                                       | <b>Oil and Gas Required Fields (client use)</b>                                                                                                                                                                                    |                                                                                                               | Environmental Division<br>Vancouver<br>Work Order Reference<br><b>VA23A0851</b><br><br>Telephone: +1 604 253 4188                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |                                                       |             |
| ALS Account # / Quote #                                                            |                                                                                       | AFE/Cost Center:                                                                                                                                                                                                                   | PO#                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |             |
| Job #:                                                                             | Walter Moberly Elementary                                                             | Major/Minor Code:                                                                                                                                                                                                                  | Routing Code:                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |             |
| PO / AFE:                                                                          |                                                                                       | Requisitioner:                                                                                                                                                                                                                     |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |             |
| LSD:                                                                               |                                                                                       | Location:                                                                                                                                                                                                                          |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |             |
| ALS Lab Work Order #: (ALS use only):                                              |                                                                                       | ALS Contact: T. Toramum                                                                                                                                                                                                            |                                                                                                               | Sampler: K. messmore                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |                                                       |             |
| ALS Sample # (ALS use only)                                                        | Sample Identification and/or Coordinates (This description will appear on the report) | Date (dd-mm-yy)                                                                                                                                                                                                                    | Time (hh:mm)                                                                                                  | Sample Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                       |             |
|                                                                                    | Lobby 045 SSDF                                                                        | 13-Jan-23                                                                                                                                                                                                                          | 7:04                                                                                                          | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |             |
|                                                                                    | Corr 050 RM 007 DF                                                                    | 13-Jan-23                                                                                                                                                                                                                          | 7:08                                                                                                          | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |             |
|                                                                                    | Corr 067 016B Bottle Filler                                                           | 13-Jan-23                                                                                                                                                                                                                          | 7:12                                                                                                          | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |             |
|                                                                                    | Corr 164 RM 161 SSDF                                                                  | 13-Jan-23                                                                                                                                                                                                                          | 7:16                                                                                                          | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |             |
|                                                                                    | Corr 127 RM 110 Bottle Filler                                                         | 13-Jan-23                                                                                                                                                                                                                          | 7:20                                                                                                          | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |             |
|                                                                                    | Corr 225 RM 208 DF                                                                    | 13-Jan-23                                                                                                                                                                                                                          | 7:24                                                                                                          | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |             |
| <b>Drinking Water (DW) Samples (client use)</b>                                    |                                                                                       | <b>Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)</b>                                                                                                                             |                                                                                                               | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |                                                       |             |
| Are samples taken from a Regulated DW System?                                      |                                                                                       | No preservatives added                                                                                                                                                                                                             |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |                                                       |             |
| Are samples for human consumption/ use?                                            |                                                                                       |                                                                                                                                                                                                                                    |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                       |             |
|                                                                                    |                                                                                       |                                                                                                                                                                                                                                    |                                                                                                               | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                                                       |             |
|                                                                                    |                                                                                       |                                                                                                                                                                                                                                    |                                                                                                               | INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C: 7°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                       |             |
| <b>SHIPMENT RELEASE (client use)</b>                                               |                                                                                       | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                   |                                                                                                               | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |                                                       |             |
| Released by:                                                                       | Date:                                                                                 | Time:                                                                                                                                                                                                                              | Received by:                                                                                                  | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Time: | Received by:                                          | Date:       |
|                                                                                    |                                                                                       |                                                                                                                                                                                                                                    |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       | JH                                                    | JAN 13/2023 |
|                                                                                    |                                                                                       |                                                                                                                                                                                                                                    |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       | 3:05 pm     |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

Results Summary VA23A0851

|               |                                        |
|---------------|----------------------------------------|
| Project       | Walter Moberly Elementary              |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 13-Jan-2023 15:05                      |
| Issue Date    | 16-Jan-2023 14:16                      |
| Amendment     | 0                                      |

|                              |                        |       |                   |                    |                             |                      |                               |                    |
|------------------------------|------------------------|-------|-------------------|--------------------|-----------------------------|----------------------|-------------------------------|--------------------|
| Client Sample ID             |                        |       | Lobby 045 SSDF    | Corr 050 Rm 007 DF | Corr 067 016B Bottle Filler | Corr 164 Rm 161 SSDF | Corr 127 Rm 110 Bottle Filler | Corr 225 Rm 208 DF |
| Date Sampled                 |                        |       | 13-Jan-2023       | 13-Jan-2023        | 13-Jan-2023                 | 13-Jan-2023          | 13-Jan-2023                   | 13-Jan-2023        |
| Time Sampled                 |                        |       | 07:04             | 07:08              | 07:12                       | 07:16                | 07:20                         | 07:24              |
| ALS Sample ID                |                        |       | VA23A0851-001     | VA23A0851-002      | VA23A0851-003               | VA23A0851-004        | VA23A0851-005                 | VA23A0851-006      |
| Analyte                      | Lowest Detection Limit | Units | Sub-Matrix: Water | Sub-Matrix: Water  | Sub-Matrix: Water           | Sub-Matrix: Water    | Sub-Matrix: Water             | Sub-Matrix: Water  |
| Total Metals (Matrix: Water) |                        |       |                   |                    |                             |                      |                               |                    |
| lead, total                  | 0.000050               | mg/L  | 0.000182          | 0.000092           | <0.000050                   | 0.000509             | 0.000051                      | 0.00202            |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2411</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Nelson Elementary                          | Date Samples Received   | : 01-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 03-Feb-2023                                                       |
| C-O-C number            | : 866751                                          | Issue Date              | : 03-Feb-2023 20:25                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 12                                              |                         |                                                                     |
| No. of samples analysed | : 12                                              |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : VA23A2411                                       | Page                  | : 1 of 6                                                            |
| Client                  | : Vancouver School Board                          | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Lord Nelson Elementary                          | Date Samples Received | : 01-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Issue Date            | : 03-Feb-2023 20:25                                                 |
| C-O-C number            | : 866751                                          |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 12                                              |                       |                                                                     |
| No. of samples analysed | : 12                                              |                       |                                                                     |

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

### Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

### Workorder Comments

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

### Summary of Outliers

#### Outliers : Quality Control Samples

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

#### Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.





## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                              | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                            |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                            |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Commons 117 RM 120 Bubbler | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Commons 117 RM 123 Bubbler | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Commons 126 RM 128 Bubbler | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Commons 126 RM 131 Bubbler | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Commons 212 RM 214 Bubbler | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Commons 212 RM 217 Bubbler | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Commons 220 RM 222 Bubbler | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                 | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Commons 220 RM 225 Bubbler    | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Commons 228 RM 231 Bubbler    | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Commons 228 RM 234 Bubbler    | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 102 RM 109 Bottle filler | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM 306 Bubbler                | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 03-Feb-2023   | 180 days      | 2 days | ✓    |

**Legend & Qualifier Definitions**

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 822192   | 1     | 20      | 5.0           | 5.0      | ✔          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 822192   | 1     | 20      | 5.0           | 5.0      | ✔          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 822192   | 1     | 20      | 5.0           | 5.0      | ✔          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 822192   | 1     | 20      | 5.0           | 5.0      | ✔          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

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## QUALITY CONTROL REPORT

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2411</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Nelson Elementary                          | Date Samples Received   | : 01-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 03-Feb-2023                                                       |
| C-O-C number            | : 866751                                          | Issue Date              | : 03-Feb-2023 20:25                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 12                                              |                         |                                                                     |
| No. of samples analysed | : 12                                              |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

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### Signatories

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

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



## General Comments

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

Key :

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

## Workorder Comments

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

## Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Water**

|                                      |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|--------------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID                 | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| <b>Total Metals (QC Lot: 822192)</b> |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A2391-001                        | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000210        | 0.000213         | 0.000003             | Diff <2x LOR     | ----      |

## Method Blank (MB) Report

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

Sub-Matrix: **Water**

| Analyte                             | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
|-------------------------------------|------------|--------|---------|------|-----------|-----------|
| <b>Total Metals (QCLot: 822192)</b> |            |        |         |      |           |           |
| Lead, total                         | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 822192) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 822192) |                  |             |            |        |                          |           |              |                     |      |
| VA23A2391-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0194 mg/L              | 0.02 mg/L | 96.8         | 70.0                | 130  |



www.alsglobal.com

Chain of Custody (COC) / Analytical  
Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here  
(lab use only)

COC Number: 17 - 866751

Page of

| Report To                                             |                                                                                       | Report Format / Distribution                                                                                           |                                                                                                               | Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)                                                                   |             |                                                                |             |
|-------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------------------------------------------|-------------|
| Company:                                              | VANCOUVER SCHOOL BOARD                                                                | Select Report Format:                                                                                                  | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | Regular [R] <input checked="" type="checkbox"/> Standard TAT If received by 3 pm - business days - no surcharges apply                                        |             |                                                                |             |
| Contact:                                              | STEPHEN THOMAS                                                                        | Quality Control (QC) Report with Report                                                                                | <input type="checkbox"/> YES <input type="checkbox"/> NO                                                      | 1 Business day [E - 100%]                                                                                                                                     |             |                                                                |             |
| Phone:                                                | 604-713-5627                                                                          | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked                  |                                                                                                               | Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)]                                                                         |             |                                                                |             |
| Company address below will appear on the final report |                                                                                       | Select Distribution:                                                                                                   | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          | Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm                                                                                                      |             |                                                                |             |
| Street:                                               | 1549 CLARK DRIVE                                                                      | Email 1 or Fax                                                                                                         | SSTHOMAS@VSB.BC.CA                                                                                            | For tests that can not be performed according to the service level selected, you will be contacted.                                                           |             |                                                                |             |
| City/Province:                                        | VANCOUVER BC                                                                          | Email 2                                                                                                                | CCARRELL@VSB.BC.CA                                                                                            | Analysis Request                                                                                                                                              |             |                                                                |             |
| Postal Code:                                          |                                                                                       | Email 3                                                                                                                | JDUONG@VSB.BC.CA                                                                                              | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                    |             |                                                                |             |
| Invoice To                                            | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Invoice Distribution                                                                                                   |                                                                                                               | NUMBER OF CONTAINERS<br>LEAD                                                                                                                                  |             | SAMPLES ON HOLD<br>SUSPECTED HAZARD (see Special Instructions) |             |
|                                                       | Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO  | Select Invoice Distribution:                                                                                           | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                     |                                                                                                                                                               |             |                                                                |             |
| Company:                                              |                                                                                       | Email 1 or Fax                                                                                                         |                                                                                                               |                                                                                                                                                               |             |                                                                |             |
| Contact:                                              |                                                                                       | Email 2                                                                                                                |                                                                                                               |                                                                                                                                                               |             |                                                                |             |
| Project Information                                   |                                                                                       | Oil and Gas Required Fields (client use)                                                                               |                                                                                                               |                                                                                                                                                               |             |                                                                |             |
| ALS Account # / Quote #:                              |                                                                                       | AFE/Cost Center:                                                                                                       | PO#                                                                                                           |                                                                                                                                                               |             |                                                                |             |
| Job #:                                                | LORD NELSON ELEMENTARY                                                                | Major/Minor Code:                                                                                                      | Routing Code:                                                                                                 |                                                                                                                                                               |             |                                                                |             |
| PO/AFE:                                               |                                                                                       | Requisitioner:                                                                                                         |                                                                                                               |                                                                                                                                                               |             |                                                                |             |
| LSD:                                                  |                                                                                       | Location:                                                                                                              |                                                                                                               |                                                                                                                                                               |             |                                                                |             |
| ALS Lab Work Order # (lab use only): A2411            |                                                                                       | ALS Contact:                                                                                                           | T. TARNUM                                                                                                     | Sampler:                                                                                                                                                      | K. MESAMARS |                                                                |             |
| ALS Sample # (lab use only)                           | Sample Identification and/or Coordinates (This description will appear on the report) | Date (dd-mmm-yy)                                                                                                       | Time (hh:mm)                                                                                                  | Sample Type                                                                                                                                                   |             |                                                                |             |
| 1                                                     | RM 306 Bubbler                                                                        | 1-Feb-23                                                                                                               | 7:05                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| 2                                                     | COMMONS 228 RM 234 Bubbler                                                            | 1-Feb-23                                                                                                               | 7:10                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| 3                                                     | COMMONS 228 RM 231 Bubbler                                                            | 1-Feb-23                                                                                                               | 7:12                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| 4                                                     | COMMONS 220 RM 225 Bubbler                                                            | 1-Feb-23                                                                                                               | 7:14                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| 5                                                     | COMMONS 220 RM 222 Bubbler                                                            | 1-Feb-23                                                                                                               | 7:16                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| 6                                                     | COMMONS 212 RM 217 Bubbler                                                            | 1-Feb-23                                                                                                               | 7:25                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| 7                                                     | COMMONS 212 RM 214 Bubbler                                                            | 1-Feb-23                                                                                                               | 7:26                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| 8                                                     | COMMONS 117 RM 120 Bubbler                                                            | 1-Feb-23                                                                                                               | 7:30                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| 9                                                     | COMMONS 117 RM 123 Bubbler                                                            | 1-Feb-23                                                                                                               | 7:31                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| 10                                                    | CORR 102 RM 109 BOTTLE FILLER                                                         | 1-Feb-23                                                                                                               | 7:35                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| 11                                                    | COMMONS 126 RM 128 Bubbler                                                            | 1-Feb-23                                                                                                               | 7:38                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| 12                                                    | COMMONS 126 RM 131 Bubbler                                                            | 1-Feb-23                                                                                                               | 7:39                                                                                                          | WATER                                                                                                                                                         |             |                                                                |             |
| Drinking Water (DW) Samples (client use)              |                                                                                       | Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only) |                                                                                                               | SAMPLE CONDITION AS RECEIVED (lab use only)                                                                                                                   |             |                                                                |             |
| Are samples taken from a Regulated DW System?         |                                                                                       | No preservatives added                                                                                                 |                                                                                                               | Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>                                                     |             |                                                                |             |
| Are samples for human consumption/ use?               |                                                                                       |                                                                                                                        |                                                                                                               | Ice Packs <input checked="" type="checkbox"/> Ice Cubes <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/> |             |                                                                |             |
|                                                       |                                                                                       |                                                                                                                        |                                                                                                               | Cooling Initiated <input type="checkbox"/>                                                                                                                    |             |                                                                |             |
|                                                       |                                                                                       |                                                                                                                        |                                                                                                               | INITIAL COOLER TEMPERATURES °C                                                                                                                                |             |                                                                |             |
|                                                       |                                                                                       |                                                                                                                        |                                                                                                               | FINAL COOLER TEMPERATURES °C                                                                                                                                  |             |                                                                |             |
| SHIPMENT RELEASE (client use)                         |                                                                                       | INITIAL SHIPMENT RECEPTION (lab use only)                                                                              |                                                                                                               | FINAL SHIPMENT RECEPTION (lab use only)                                                                                                                       |             |                                                                |             |
| Released by:                                          | Date:                                                                                 | Time:                                                                                                                  | Received by:                                                                                                  | Date:                                                                                                                                                         | Time:       | Received by:                                                   | Date:       |
|                                                       |                                                                                       |                                                                                                                        |                                                                                                               |                                                                                                                                                               |             | CW                                                             | Feb 1 14:55 |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY

YELLOW - CLIENT COPY

JUNE 2018 FRONT



Results Summary VA23A2411

|               |                                        |
|---------------|----------------------------------------|
| Project       | Lord Nelson Elementary                 |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 01-Feb-2023 14:55                      |
| Issue Date    | 03-Feb-2023 20:26                      |
| Amendment     | 0                                      |

|                              |                        |       |                   |                            |                            |                            |                            |                            |                            |                            |                            |                               |                            |                            |
|------------------------------|------------------------|-------|-------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-------------------------------|----------------------------|----------------------------|
| Client Sample ID             |                        |       | RM 306 Bubbler    | Commons 228 RM 234 Bubbler | Commons 228 RM 231 Bubbler | Commons 220 RM 225 Bubbler | Commons 220 RM 222 Bubbler | Commons 212 RM 217 Bubbler | Commons 212 RM 214 Bubbler | Commons 117 RM 120 Bubbler | Commons 117 RM 123 Bubbler | Corr 102 RM 109 Bottle filler | Commons 126 RM 128 Bubbler | Commons 126 RM 131 Bubbler |
| Date Sampled                 |                        |       | 01-Feb-2023       | 01-Feb-2023                | 01-Feb-2023                | 01-Feb-2023                | 01-Feb-2023                | 01-Feb-2023                | 01-Feb-2023                | 01-Feb-2023                | 01-Feb-2023                | 01-Feb-2023                   | 01-Feb-2023                | 01-Feb-2023                |
| Time Sampled                 |                        |       | 07:05             | 07:10                      | 07:12                      | 07:14                      | 07:16                      | 07:25                      | 07:26                      | 07:30                      | 07:31                      | 07:35                         | 07:38                      | 07:39                      |
| ALS Sample ID                |                        |       | VA23A2411-001     | VA23A2411-002              | VA23A2411-003              | VA23A2411-004              | VA23A2411-005              | VA23A2411-006              | VA23A2411-007              | VA23A2411-008              | VA23A2411-009              | VA23A2411-010                 | VA23A2411-011              | VA23A2411-012              |
| Analyte                      | Lowest Detection Limit | Units | Sub-Matrix: Water | Sub-Matrix: Water          | Sub-Matrix: Water          | Sub-Matrix: Water          | Sub-Matrix: Water          | Sub-Matrix: Water          | Sub-Matrix: Water          | Sub-Matrix: Water          | Sub-Matrix: Water          | Sub-Matrix: Water             | Sub-Matrix: Water          | Sub-Matrix: Water          |
| Total Metals (Matrix: Water) |                        |       |                   |                            |                            |                            |                            |                            |                            |                            |                            |                               |                            |                            |
| Lead, total                  | 0.000050               | mg/L  | 0.000059          | 0.000096                   | 0.000073                   | 0.000080                   | 0.000062                   | 0.000055                   | 0.000077                   | 0.000061                   | <0.000050                  | 0.000116                      | 0.000082                   | 0.000052                   |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0105</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Florence Nightingale Elementary                 | Date Samples Received   | : 04-Jan-2023 14:50                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 05-Jan-2023                                                       |
| C-O-C number            | : 20-1039090                                      | Issue Date              | : 05-Jan-2023 22:25                                                 |
| Sampler                 | : Robin LeMay                                     |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

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Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0105</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Florence Nightingale Elementary                 | Date Samples Received | : 04-Jan-2023 14:50                                                 |
| PO                      | : ----                                            | Issue Date            | : 05-Jan-2023 22:25                                                 |
| C-O-C number            | : 20-1039090                                      |                       |                                                                     |
| Sampler                 | : Robin LeMay                                     |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : ----                                            |                       |                                                                     |
| No. of samples received | : 4                                               |                       |                                                                     |
| No. of samples analysed | : 4                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                      | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|--------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                    |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                    |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 114 Rm. 1146 D.F.            | E420   | 04-Jan-2023   | 05-Jan-2023              | ----          | ----   |      | 05-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 214 Rm. 203 S.S.D.F.         | E420   | 04-Jan-2023   | 05-Jan-2023              | ----          | ----   |      | 05-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Play Area 004 Rm 005 Bottle Filler | E420   | 04-Jan-2023   | 05-Jan-2023              | ----          | ----   |      | 05-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Stair 019 Rm. 020 D.F.             | E420   | 04-Jan-2023   | 05-Jan-2023              | ----          | ----   |      | 05-Jan-2023   | 180 days      | 1 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 794088   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 794088   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 794088   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 794088   | 1     | 15      | 6.6           | 5.0      | ✓          |





## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0105</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Florence Nightingale Elementary                 | Date Samples Received   | : 04-Jan-2023 14:50                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 05-Jan-2023                                                       |
| C-O-C number            | : 20-1039090                                      | Issue Date              | : 05-Jan-2023 22:25                                                 |
| Sampler                 | : Robin LeMay_---                                 |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 794088) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| KS2300010-001                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.00107         | 0.00108          | 0.532%               | 20%              | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 794088) |            |        |         |      |           |           |
| lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 794088) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 105          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 794088) |                  |             |            |        |                          |           |              |                     |      |
| KS2300011-001                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0181 mg/L              | 0.02 mg/L | 90.5         | 70.0                | 130  |



COC Number: 20 - 1039090

**Canada Toll Free: 1 800 668 9878**

Page of

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 2020 FRONT

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

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

## Results Summary VA23A0105

**Project** Florence Nightingale Elementary  
**Report To** Stephen Thomas, Vancouver School Board  
**Date Received** 04-Jan-2023 14:50  
**Issue Date** 05-Jan-2023 22:25  
**Amendment** 0

|                                     |                           |       |                                       |                        |                            |                               |
|-------------------------------------|---------------------------|-------|---------------------------------------|------------------------|----------------------------|-------------------------------|
| Client Sample ID                    |                           |       | Play Area 004 Rm 005<br>Bottle Filler | Stair 019 Rm. 020 D.F. | Corr. 114 Rm. 1146<br>D.F. | Corr. 214 Rm. 203<br>S.S.D.F. |
| Date Sampled                        |                           |       | 04-Jan-2023                           | 04-Jan-2023            | 04-Jan-2023                | 04-Jan-2023                   |
| Time Sampled                        |                           |       | 07:25                                 | 07:31                  | 07:34                      | 07:39                         |
| ALS Sample ID                       |                           |       | VA23A0105-001                         | VA23A0105-002          | VA23A0105-003              | VA23A0105-004                 |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water                  | Sub-Matrix:<br>Water   | Sub-Matrix:<br>Water       | Sub-Matrix:<br>Water          |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                                       |                        |                            |                               |
| lead, total                         | 0.000050                  | mg/L  | 0.000065                              | 0.00114                | 0.00131                    | 0.0227                        |

---

**CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)**

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0331</b>                                | Page                    | : 1 of 3                                                            |
| Amendment               | : <b>2</b>                                        |                         |                                                                     |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Nootka Elementary                               | Date Samples Received   | : 06-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 08-Jan-2023                                                       |
| C-O-C number            | : 20-1039092                                      | Issue Date              | : 09-Jan-2023 16:17                                                 |
| Sampler                 | : Robin LeMay                                     |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

---

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

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- General Comments
- Analytical Results
- Guideline Comparison

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

---

### *Signatories*

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

| <u>Signatories</u> | <u>Position</u>                         | <u>Laboratory Department</u>      |
|--------------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte       | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

### Workorder Comments

Amendment (9/1/2023): This report has been amended to alter the site details, project reference code or order number. All analysis results are as per the previous report.

Revision (2): Project reference corrected to "Nootka Elementary".





Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0331</b>                                | Page                  | : 1 of 5                                                            |
| Amendment               | : <b>2</b>                                        |                       |                                                                     |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Nootka Elementary                               | Date Samples Received | : 06-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 09-Jan-2023 16:17                                                 |
| C-O-C number            | : 20-1039092                                      |                       |                                                                     |
| Sampler                 | : Robin LeMay                                     |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : ----                                            |                       |                                                                     |
| No. of samples received | : 5                                               |                       |                                                                     |
| No. of samples analysed | : 5                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                  | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 Rm 103 DF             | E420   | 06-Jan-2023   | 08-Jan-2023              | ----          | ----   |      | 09-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 131 Rm 106 SSDF           | E420   | 06-Jan-2023   | 08-Jan-2023              | ----          | ----   |      | 09-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 131 Rm 127 Bottles Filter | E420   | 06-Jan-2023   | 08-Jan-2023              | ----          | ----   |      | 09-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 183 Rm 167 SSDF           | E420   | 06-Jan-2023   | 08-Jan-2023              | ----          | ----   |      | 09-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 118 Rm 125 DF            | E420   | 06-Jan-2023   | 08-Jan-2023              | ----          | ----   |      | 09-Jan-2023   | 180 days      | 3 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796249   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796249   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796249   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 796249   | 1     | 15      | 6.6           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0331</b>                                | Page                    | : 1 of 3                                                            |
| Amendment               | : <b>2</b>                                        |                         |                                                                     |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Nootka Elementary                               | Date Samples Received   | : 06-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 08-Jan-2023                                                       |
| C-O-C number            | : 20-1039092                                      | Issue Date              | : 09-Jan-2023 16:17                                                 |
| Sampler                 | : Robin LeMay ----                                |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 796249) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0316-001                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 796249) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |





Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 796249) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 94.6         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 796249) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0316-002                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0182 mg/L              | 0.02 mg/L | 91.0         | 70.0                | 130  |



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## Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20-1039092

Page of

|                                                                                                                      |                                                                                          |       |                                                                                                                                     |                                                                                                           |                 |                                                                                                                                                                                        |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------|--|--|
| <b>Report To</b><br>Contact and company name below will appear on the final report                                   |                                                                                          |       | <b>Reports / Recipients</b>                                                                                                         |                                                                                                           |                 | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                 |  |                                                                                                                                                                                                     | <b>AFFIX ALS BARCODE LABEL HERE</b><br>(ALS use only)                        |             |  |  |
| Company: <u>Vancouver School Board</u>                                                                               |                                                                                          |       | Select Report Format: <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) |                                                                                                           |                 | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                                                           |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| Contact: <u>Stephen Thomas</u>                                                                                       |                                                                                          |       | Merge QC/QCI Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                 |                                                                                                           |                 | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum                                                                                                |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| Phone: <u>604 713-5637</u>                                                                                           |                                                                                          |       | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked                               |                                                                                                           |                 | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum                                                                                                |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| Company address below will appear on the final report                                                                |                                                                                          |       | Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX           |                                                                                                           |                 | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum                                                                                                |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| Street: <u>1549 Clark Drive</u>                                                                                      |                                                                                          |       | Email 1 or Fax: <u>ssstomas@vssb.bc.ca</u>                                                                                          |                                                                                                           |                 | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum                                                                                                |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| City/Province: <u>Vancouver B.C.</u>                                                                                 |                                                                                          |       | Email 2: <u>clarkd@vssb.bc.ca</u>                                                                                                   |                                                                                                           |                 | <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| Postal Code:                                                                                                         |                                                                                          |       | Email 3: <u>jduong@vssb.bc.ca</u>                                                                                                   |                                                                                                           |                 | Date and Time Required for all E&P TATs:                                                                                                                                               |  |                                                                                                                                                                                                     | dd-mm-yy hh:mm am/pm                                                         |             |  |  |
| Invoice To: Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                    |                                                                                          |       | Invoice Recipients                                                                                                                  |                                                                                                           |                 | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO                                 |                                                                                          |       | Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX              |                                                                                                           |                 | <b>Analysis Request</b>                                                                                                                                                                |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| Company:                                                                                                             |                                                                                          |       | Email 1 or Fax:                                                                                                                     |                                                                                                           |                 | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                             |  |                                                                                                                                                                                                     | SAMPLES ON HOLD<br>EXTENDED STORAGE REQUIRED<br>SUSPECTED HAZARD (see notes) |             |  |  |
| Contact:                                                                                                             |                                                                                          |       | Email 2:                                                                                                                            |                                                                                                           |                 |                                                                                                                                                                                        |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| <b>Project Information</b>                                                                                           |                                                                                          |       | <b>Oil and Gas Required Fields (client use)</b>                                                                                     |                                                                                                           |                 | <b>NUMBER OF CONTAINERS</b><br><u>Lead</u>                                                                                                                                             |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| ALS Account # / Quote #                                                                                              |                                                                                          |       | AFE/Cost Center:                                                                                                                    |                                                                                                           |                 |                                                                                                                                                                                        |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| Job #:                                                                                                               |                                                                                          |       | Major/Minor Code:                                                                                                                   |                                                                                                           |                 |                                                                                                                                                                                        |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| PO / AFE:                                                                                                            |                                                                                          |       | Requisitioner:                                                                                                                      |                                                                                                           |                 |                                                                                                                                                                                        |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| LSD:                                                                                                                 |                                                                                          |       | Location:                                                                                                                           |                                                                                                           |                 |                                                                                                                                                                                        |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| ALS Lab Work Order # (ALS use only): <u>0331</u>                                                                     |                                                                                          |       | ALS Contact: <u>T. Tarannum</u>                                                                                                     |                                                                                                           |                 | Sampler: <u>R. Lemay</u>                                                                                                                                                               |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| ALS Sample #<br>(ALS use only)                                                                                       | Sample Identification and/or Coordinates<br>(This description will appear on the report) |       |                                                                                                                                     | Date<br>(dd-mm-yy)                                                                                        | Time<br>(hh:mm) | Sample Type                                                                                                                                                                            |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
|                                                                                                                      | Corr. 118 Rm. 125 D.F.                                                                   |       |                                                                                                                                     | 06-01-23                                                                                                  | 7:32am          | water                                                                                                                                                                                  |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
|                                                                                                                      | Corr. 131 Rm. 127 Bottle Filler                                                          |       |                                                                                                                                     | 06-01-23                                                                                                  | 7:36am          | water                                                                                                                                                                                  |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
|                                                                                                                      | Corr. 131 Rm. 106 S.S.D.F.                                                               |       |                                                                                                                                     | 06-01-23                                                                                                  | 7:40am          | water                                                                                                                                                                                  |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
|                                                                                                                      | Corr. 100 Rm. 103 D.F.                                                                   |       |                                                                                                                                     | 06-01-23                                                                                                  | 7:44am          | water                                                                                                                                                                                  |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
|                                                                                                                      | Corr. 183 Rm. 167 S.S.D.F.                                                               |       |                                                                                                                                     | 06-01-23                                                                                                  | 7:47am          | water                                                                                                                                                                                  |  |                                                                                                                                                                                                     |                                                                              |             |  |  |
| <b>Drinking Water (DW) Samples<sup>1</sup> (client use)</b>                                                          |                                                                                          |       |                                                                                                                                     | <b>Notes / Specify Limits for result evaluation by selecting from drop-down below</b><br>(Excel COC only) |                 |                                                                                                                                                                                        |  | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                        |                                                                              |             |  |  |
| Are samples taken from a Regulated DW System?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                          |       |                                                                                                                                     | <u>No preservatives added</u>                                                                             |                 |                                                                                                                                                                                        |  | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED |                                                                              |             |  |  |
| Are samples for human consumption/ use?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO       |                                                                                          |       |                                                                                                                                     |                                                                                                           |                 |                                                                                                                                                                                        |  | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                             |                                                                              |             |  |  |
|                                                                                                                      |                                                                                          |       |                                                                                                                                     |                                                                                                           |                 |                                                                                                                                                                                        |  | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                       |                                                                              |             |  |  |
|                                                                                                                      |                                                                                          |       |                                                                                                                                     |                                                                                                           |                 |                                                                                                                                                                                        |  | INITIAL COOLER TEMPERATURES °C: <u>3</u> FINAL COOLER TEMPERATURES °C: <u>3</u>                                                                                                                     |                                                                              |             |  |  |
| <b>SHIPMENT RELEASE (client use)</b>                                                                                 |                                                                                          |       |                                                                                                                                     | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                          |                 |                                                                                                                                                                                        |  | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                      |                                                                              |             |  |  |
| Released by:                                                                                                         |                                                                                          | Date: |                                                                                                                                     | Time:                                                                                                     |                 | Received by:                                                                                                                                                                           |  | Date:                                                                                                                                                                                               |                                                                              | Time:       |  |  |
|                                                                                                                      |                                                                                          |       |                                                                                                                                     |                                                                                                           |                 | <u>CW</u>                                                                                                                                                                              |  | <u>Jan 6</u>                                                                                                                                                                                        |                                                                              | <u>1500</u> |  |  |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS 2020 FRONT

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

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

# Results Summary VA23A0331

**Project** Nootka Elementary  
**Report To** Stephen Thomas, Vancouver School Board  
**Date Received** 06-Jan-2023 15:00  
**Issue Date** 09-Jan-2023 16:17  
**Amendment** 2

|                                     |                           |       |                      |                                   |                         |                      |                         |
|-------------------------------------|---------------------------|-------|----------------------|-----------------------------------|-------------------------|----------------------|-------------------------|
| Client Sample ID                    |                           |       | Corr. 118 Rm 125 DF  | Corr 131 Rm 127<br>Bottles Filter | Corr 131 Rm 106<br>SSDF | Corr 100 Rm 103 DF   | Corr 183 Rm 167<br>SSDF |
| Date Sampled                        |                           |       | 06-Jan-2023          | 06-Jan-2023                       | 06-Jan-2023             | 06-Jan-2023          | 06-Jan-2023             |
| Time Sampled                        |                           |       | 07:32                | 07:36                             | 07:40                   | 07:44                | 07:47                   |
| ALS Sample ID                       |                           |       | VA23A0331-001        | VA23A0331-002                     | VA23A0331-003           | VA23A0331-004        | VA23A0331-005           |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water              | Sub-Matrix:<br>Water    | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water    |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                      |                                   |                         |                      |                         |
| lead, total                         | 0.000050                  | mg/L  | 0.000988             | 0.000461                          | 0.00170                 | 0.00143              | 0.000063                |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0508</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : John Norquay Elementary                         | Date Samples Received   | : 10-Jan-2023 14:50                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 12-Jan-2023                                                       |
| C-O-C number            | : 20-1041689                                      | Issue Date              | : 12-Jan-2023 13:11                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 8                                               |                         |                                                                     |
| No. of samples analysed | : 8                                               |                         |                                                                     |

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0508</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : John Norquay Elementary                         | Date Samples Received | : 10-Jan-2023 14:50                                                 |
| PO                      | : ----                                            | Issue Date            | : 12-Jan-2023 13:11                                                 |
| C-O-C number            | : 20-1041689                                      |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : ----                                            |                       |                                                                     |
| No. of samples received | : 8                                               |                       |                                                                     |
| No. of samples analysed | : 8                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.





## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                      | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|--------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                    |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                    |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 Stair Rm 115 DF           | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 170 Rm 160 SSDF               | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 220 Stair 296 DF              | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 220 Stair 297 DF              | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 267 Rm SSDF                   | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 032 Rm 021 DF                | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Play area 001 Rm 009 Bottle Filler | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                     | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| Container / Client Sample ID(s)                   |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                   |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
|                                                   |        |               |                          |               |        |      |               |               |        |      |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Stair 196 DF      | E420   | 10-Jan-2023   | 12-Jan-2023              | ----          | ----   |      | 12-Jan-2023   | 180 days      | 2 days | ✓    |

**Legend & Qualifier Definitions**

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 799367   | 1     | 13      | 7.6           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 799367   | 1     | 13      | 7.6           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 799367   | 1     | 13      | 7.6           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 799367   | 1     | 13      | 7.6           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0508</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : John Norquay Elementary                         | Date Samples Received   | : 10-Jan-2023 14:50                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 12-Jan-2023                                                       |
| C-O-C number            | : 20-1041689                                      | Issue Date              | : 12-Jan-2023 13:11                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : ----                                            |                         |                                                                     |
| No. of samples received | : 8                                               |                         |                                                                     |
| No. of samples analysed | : 8                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 799367) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0501-001                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.00344         | 0.00348          | 0.882%               | 20%              | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 799367) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 799367) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 104          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 799367) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0501-002                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0200 mg/L              | 0.02 mg/L | 99.9         | 70.0                | 130  |



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## Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 1041689

Canada Toll Free: 1 800 668 9878

Page of

|                                                                                    |                                                                                       |                                                                                                        |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------|----------------------|------|--|--|--|--|--|-----------------|---------------------------|------------------------------|--|--|--|--|-----------------|---------------------------|------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>Report To</b><br>Contact and company name below will appear on the final report |                                                                                       | <b>Reports / Recipients</b>                                                                            |                                                                                                               | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       | <b>AFFIX ALS BARCODE LABEL HERE</b><br>(ALS use only) |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company:                                                                           | VANCOUVER SCHOOL BOARD                                                                | Select Report Format:                                                                                  | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Contact:                                                                           | STEPHEN THOMAS                                                                        | Merge QC/QCI Reports with COA                                                                          | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Phone:                                                                             | 604-713-5637                                                                          | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked  |                                                                                                               | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company address below will appear on the final report                              |                                                                                       | Select Distribution:                                                                                   | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Street:                                                                            | 1549 Clark drive                                                                      | Email 1 or Fax                                                                                         | SSThomas@VSB.bc.ca                                                                                            | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| City/Province:                                                                     | VANCOUVER BC                                                                          | Email 2                                                                                                | LCarpell@VSB.bc.ca                                                                                            | <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests                                                                                                                                                                                                                                                                                                                                                                                       |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Postal Code:                                                                       |                                                                                       | Email 3                                                                                                | Jduong@VSB.bc.ca                                                                                              | Date and Time Required for all E&P TATs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       | dd-mmm-yy hh:mm am/pm                                 |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Invoice To                                                                         | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | <b>Invoice Recipients</b>                                                                              |                                                                                                               | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                    | Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO  | Select Invoice Distribution:                                                                           | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                     | <b>Analysis Request</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company:                                                                           |                                                                                       | Email 1 or Fax                                                                                         |                                                                                                               | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Contact:                                                                           |                                                                                       | Email 2                                                                                                |                                                                                                               | <table border="1"> <tr> <td rowspan="10">NUMBER OF CONTAINERS</td> <td rowspan="10">LEAD</td> <td colspan="12"></td> <td rowspan="10">SAMPLES ON HOLD</td> <td rowspan="10">EXTENDED STORAGE REQUIRED</td> <td rowspan="10">SUSPECTED HAZARD (see notes)</td> </tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> </table> |       |                                                       | NUMBER OF CONTAINERS | LEAD |  |  |  |  |  |                 |                           |                              |  |  |  |  | SAMPLES ON HOLD | EXTENDED STORAGE REQUIRED | SUSPECTED HAZARD (see notes) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NUMBER OF CONTAINERS                                                               | LEAD                                                                                  |                                                                                                        |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |                      |      |  |  |  |  |  | SAMPLES ON HOLD | EXTENDED STORAGE REQUIRED | SUSPECTED HAZARD (see notes) |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| <b>Project Information</b>                                                         |                                                                                       | <b>Oil and Gas Required Fields (client use)</b>                                                        |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALS Account # / Quote #                                                            |                                                                                       | AFE/Cost Center:                                                                                       |                                                                                                               | PO#                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Job #: John Norquay Elementary                                                     |                                                                                       | Major/Minor Code:                                                                                      |                                                                                                               | Routing Code:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PO / AFE:                                                                          |                                                                                       | Requisitioner:                                                                                         |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LSD:                                                                               |                                                                                       | Location:                                                                                              |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALS Lab Work Order # (ALS use only):                                               |                                                                                       | ALS Contact: T. Trawanum                                                                               |                                                                                                               | Sampler: K. Messmore                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALS Sample # (ALS use only)                                                        | Sample Identification and/or Coordinates (This description will appear on the report) | Date (dd-mmm-yy)                                                                                       | Time (hh:mm)                                                                                                  | Sample Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                    | Corr 032 RM 021 DF                                                                    | 10-Jan-23                                                                                              | 7:30                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                    | Corr 170 RM 160 SSDF                                                                  | 10-Jan-23                                                                                              | 7:32                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                    | Corr 267 RM SSDF                                                                      | 10-Jan-23                                                                                              | 7:35                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                    | play area 001 RM 009 Bottle Filler                                                    | 10-Jan-23                                                                                              | 7:40                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                    | stair 196 DF                                                                          | 10-Jan-23                                                                                              | 7:42                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                    | corr 100 stair RM 115 DF                                                              | 10-Jan-23                                                                                              | 7:44                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                    | corr 220 stair 297 DF                                                                 | 10-Jan-23                                                                                              | 7:46                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                    | corr 220 stair 296 DF                                                                 | 10-Jan-23                                                                                              | 7:48                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Drinking Water (DW) Samples<sup>1</sup> (client use)</b>                        |                                                                                       | <b>Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)</b> |                                                                                                               | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Are samples taken from a Regulated DW System?                                      |                                                                                       | No preservatives added                                                                                 |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                                                                                                                          |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                |                                                                                       |                                                                                                        |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Are samples for human consumption/ use?                                            |                                                                                       |                                                                                                        |                                                                                                               | Cooler Custody/ Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                               |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                |                                                                                       |                                                                                                        |                                                                                                               | INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C: 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>SHIPMENT RELEASE (client use)</b>                                               |                                                                                       | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                       |                                                                                                               | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Released by:                                                                       | Date:                                                                                 | Time:                                                                                                  | Received by:                                                                                                  | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Time: | Received by:                                          |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                    |                                                                                       |                                                                                                        |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       | AB 01/10/23 2:50PM                                    |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS P220 FRONT

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

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



Results Summary VA23A0508

|               |                                        |
|---------------|----------------------------------------|
| Project       | John Norquay Elementary                |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 10-Jan-2023 14:50                      |
| Issue Date    | 12-Jan-2023 13:12                      |
| Amendment     | 0                                      |

|                              |                        |       |                     |                      |                   |                                    |                   |                          |                       |                       |
|------------------------------|------------------------|-------|---------------------|----------------------|-------------------|------------------------------------|-------------------|--------------------------|-----------------------|-----------------------|
| Client Sample ID             |                        |       | Corr. 032 Rm 021 DF | Corr 170 Rm 160 SSDF | Corr 267 Rm SSDF  | Play area 001 Rm 009 Bottle Filler | Stair 196 DF      | Corr 100 Stair Rm 115 DF | Corr 220 Stair 297 DF | Corr 220 Stair 296 DF |
| Date Sampled                 |                        |       | 10-Jan-2023         | 10-Jan-2023          | 10-Jan-2023       | 10-Jan-2023                        | 10-Jan-2023       | 10-Jan-2023              | 10-Jan-2023           | 10-Jan-2023           |
| Time Sampled                 |                        |       | 07:30               | 07:32                | 07:35             | 07:40                              | 07:42             | 07:44                    | 07:46                 | 07:48                 |
| ALS Sample ID                |                        |       | VA23A0508-001       | VA23A0508-002        | VA23A0508-003     | VA23A0508-004                      | VA23A0508-005     | VA23A0508-006            | VA23A0508-007         | VA23A0508-008         |
| Analyte                      | Lowest Detection Limit | Units | Sub-Matrix: Water   | Sub-Matrix: Water    | Sub-Matrix: Water | Sub-Matrix: Water                  | Sub-Matrix: Water | Sub-Matrix: Water        | Sub-Matrix: Water     | Sub-Matrix: Water     |
| Total Metals (Matrix: Water) |                        |       |                     |                      |                   |                                    |                   |                          |                       |                       |
| lead, total                  | 0.000050               | mg/L  | 0.000392            | 0.00147              | 0.000106          | 0.000072                           | 0.00191           | 0.00124                  | 0.00142               | 0.00168               |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0852</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Sir William Osler Elementary                    | Date Samples Received   | : 13-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 15-Jan-2023                                                       |
| C-O-C number            | : 20-1041695                                      | Issue Date              | : 16-Jan-2023 14:16                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0852</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Sir William Osler Elementary                    | Date Samples Received | : 13-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Issue Date            | : 16-Jan-2023 14:16                                                 |
| C-O-C number            | : 20-1041695                                      |                       |                                                                     |
| Sampler                 | : ----                                            |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 5                                               |                       |                                                                     |
| No. of samples analysed | : 5                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys Change Rm 124 DF           | E420   | 13-Jan-2023   | 15-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 113 Rm. 109 DF             | E420   | 13-Jan-2023   | 15-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 127 Rm. 127A Bottle Filler | E420   | 13-Jan-2023   | 15-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 201 Rm 215 SSDF            | E420   | 13-Jan-2023   | 15-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls Change Rm 119 DF          | E420   | 13-Jan-2023   | 15-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 3 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 802624   | 1     | 14      | 7.1           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 802624   | 1     | 14      | 7.1           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 802624   | 1     | 14      | 7.1           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 802624   | 1     | 14      | 7.1           | 5.0      | ✓          |





## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0852</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Sir William Osler Elementary                    | Date Samples Received   | : 13-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 15-Jan-2023                                                       |
| C-O-C number            | : 20-1041695                                      | Issue Date              | : 16-Jan-2023 14:16                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 802624) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0844-001                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000250                          | mg/L | <0.000250       | <0.000250        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 802624) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 802624) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 99.5         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 802624) |                  |             |            |        |                          |           |              |                     |      |
| KS2300114-002                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0179 mg/L              | 0.02 mg/L | 89.4         | 70.0                | 130  |



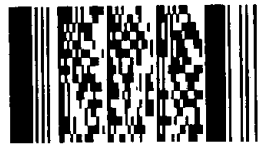
www.alsglobal.com

## Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 1041695

Page of

|                                                                                                                      |                                                                                                 |                                                                                                                                                  |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                                                       |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| <b>Report To</b><br>Contact and company name below will appear on the final report                                   |                                                                                                 | <b>Reports / Recipients</b>                                                                                                                      |                                                                                                               | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                           | <b>AFFIX ALS BARCODE LABEL HERE</b><br>(ALS use only) |
| Company:                                                                                                             | Vancouver School Board                                                                          | Select Report Format:                                                                                                                            | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> BDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply<br><input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum<br><input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum<br><input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum<br><input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum<br><input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Contact:                                                                                                             | Stephen Thomas                                                                                  | Merge QC/QCI Reports with COA                                                                                                                    | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Phone:                                                                                                               | 604 713-5637                                                                                    | Compend Results to Criteria on Report - provide details below if box checked                                                                     | <input type="checkbox"/>                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Company address below will appear on the final report                                                                |                                                                                                 | Select Distribution:                                                                                                                             | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Street:                                                                                                              | 1549 Clark Drive                                                                                | Email 1 or Fax                                                                                                                                   | ssthenas@vsb.bc.ca                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| City/Province:                                                                                                       | Vancouver B.C.                                                                                  | Email 2                                                                                                                                          | ccarrell@vsb.bc.ca                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Postal Code:                                                                                                         |                                                                                                 | Email 3                                                                                                                                          | jduong@vsb.bc.ca                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Invoice To                                                                                                           | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO           | <b>Invoice Recipients</b>                                                                                                                        |                                                                                                               | Date and Time Required for all E&P TATs: dd-mm-yy hh:mm am/pm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                           |                                                       |
|                                                                                                                      | Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Select Invoice Distribution:                                                                                                                     | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                     | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Company:                                                                                                             |                                                                                                 | Email 1 or Fax                                                                                                                                   |                                                                                                               | <b>Analysis Request</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Contact:                                                                                                             |                                                                                                 | Email 2                                                                                                                                          |                                                                                                               | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| <b>Project Information</b>                                                                                           |                                                                                                 | <b>Oil and Gas Required Fields (client use)</b>                                                                                                  |                                                                                                               | <b>NUMBER OF CONTAINERS</b><br>Lead                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <div style="border: 1px solid black; padding: 10px; text-align: center;"> <b>Environmental Division</b><br/> <b>Vancouver</b><br/>           Work Order Reference<br/> <b>VA23A0852</b><br/> <br/>           Telephone: +1 604 253 4188         </div> |                                                       |
| ALS Account # / Quote #                                                                                              |                                                                                                 | AFE/Cost Center:                                                                                                                                 | PO#                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Job #                                                                                                                | Sir William Osler Elementary                                                                    | Major/Minor Code:                                                                                                                                | Routing Code:                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| PO / AFE:                                                                                                            |                                                                                                 | Requisitioner:                                                                                                                                   |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| LSD:                                                                                                                 |                                                                                                 | Location:                                                                                                                                        |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| ALS Lab Work Order # (ALS use only):                                                                                 |                                                                                                 | ALS Contact:                                                                                                                                     | T. Tarannum                                                                                                   | Sampler:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | R. Lemay                                                                                                                                                                                                                                                                                                                                  |                                                       |
| ALS Sample #<br>(ALS use only)                                                                                       | Sample Identification and/or Coordinates<br>(This description will appear on the report)        | Date<br>(dd-mm-yy)                                                                                                                               | Time<br>(hh:mm)                                                                                               | Sample Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                           |                                                       |
|                                                                                                                      | Corr. 113 Rm. 109 D.F.                                                                          | 13-01-23                                                                                                                                         | 7:43am                                                                                                        | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                           |                                                       |
|                                                                                                                      | Corr. 127 Rm. 127A Bottle Filler                                                                | 13-01-23                                                                                                                                         | 7:48am                                                                                                        | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                           |                                                       |
|                                                                                                                      | Boys change Rm. 124 D.F.                                                                        | 13-01-23                                                                                                                                         | 7:53am                                                                                                        | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                           |                                                       |
|                                                                                                                      | Girls change Rm. 119 D.F.                                                                       | 13-01-23                                                                                                                                         | 7:57am                                                                                                        | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                           |                                                       |
|                                                                                                                      | Corr. 201 Rm. 215 S.S.D.F.                                                                      | 13-01-23                                                                                                                                         | 8:03am                                                                                                        | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| <b>Drinking Water (DW) Samples<sup>1</sup> (client use)</b>                                                          |                                                                                                 | <b>Notes / Specify Limits for result evaluation by selecting from drop-down below</b><br>(Excel COC only)                                        |                                                                                                               | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Are samples taken from a Regulated DW System?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                                 | No preservatives added                                                                                                                           |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Are samples for human consumption/ use?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO       |                                                                                                 |                                                                                                                                                  |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                           |                                                       |
|                                                                                                                      |                                                                                                 | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | INITIAL COOLER TEMPERATURES °C                                                                                                                                                                                                                                                                                                            |                                                       |
|                                                                                                                      |                                                                                                 |                                                                                                                                                  |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | FINAL COOLER TEMPERATURES °C                                                                                                                                                                                                                                                                                                              |                                                       |
|                                                                                                                      |                                                                                                 |                                                                                                                                                  |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 70                                                                                                                                                                                                                                                                                                                                        |                                                       |
| <b>SHIPMENT RELEASE (client use)</b>                                                                                 |                                                                                                 | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                 |                                                                                                               | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                           |                                                       |
| Released by:                                                                                                         | Date:                                                                                           | Time:                                                                                                                                            | Received by:                                                                                                  | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Time:                                                                                                                                                                                                                                                                                                                                     | Received by:                                          |
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REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY

YELLOW - CLIENT COPY

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

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

# Results Summary VA23A0852

**Project** Sir William Osler Elementary  
**Report To** Stephen Thomas, Vancouver School Board  
**Date Received** 13-Jan-2023 15:05  
**Issue Date** 16-Jan-2023 14:16  
**Amendment** 0

|                                     |                           |       |                      |                                    |                          |                           |                         |
|-------------------------------------|---------------------------|-------|----------------------|------------------------------------|--------------------------|---------------------------|-------------------------|
| Client Sample ID                    |                           |       | Corr 113 Rm. 109 DF  | Corr 127 Rm. 127A<br>Bottle Filler | Boys Change Rm 124<br>DF | Girls Change Rm 119<br>DF | Corr 201 Rm 215<br>SSDF |
| Date Sampled                        |                           |       | 13-Jan-2023          | 13-Jan-2023                        | 13-Jan-2023              | 13-Jan-2023               | 13-Jan-2023             |
| Time Sampled                        |                           |       | 07:43                | 07:48                              | 07:08                    | 07:57                     | 08:03                   |
| ALS Sample ID                       |                           |       | VA23A0852-001        | VA23A0852-002                      | VA23A0852-003            | VA23A0852-004             | VA23A0852-005           |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water     | Sub-Matrix:<br>Water      | Sub-Matrix:<br>Water    |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                      |                                    |                          |                           |                         |
| lead, total                         | 0.000050                  | mg/L  | 0.000890             | 0.000086                           | 0.00315                  | 0.000631                  | 0.00589                 |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2048</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Point Grey Secondary                            | Date Samples Received   | : 27-Jan-2023 15:15                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 29-Jan-2023                                                       |
| C-O-C number            | : 20-980486                                       | Issue Date              | : 31-Jan-2023 09:29                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 9                                               |                         |                                                                     |
| No. of samples analysed | : 9                                               |                         |                                                                     |

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

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### Signatories

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

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.





Analytical Results Evaluation

Matrix:

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| Matrix: | Client sample ID   |      | ----  | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sampling date/time |      | ----  | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sub-Matrix         |      | ----  | ----- | ----- | ----- | ----- | ----- | ----- |
| Analyte | CAS Number         | Unit | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
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## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2048</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Point Grey Secondary                            | Date Samples Received | : 27-Jan-2023 15:15                                                 |
| PO                      | : ----                                            | Issue Date            | : 31-Jan-2023 09:29                                                 |
| C-O-C number            | : 20-980486                                       |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 9                                               |                       |                                                                     |
| No. of samples analysed | : 9                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys Change Rm. 241 S.S.D.F.    | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 100A D.F.         | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 200 Rm. 207 D.F.          | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 200 Rm. 220 S.S.D.F       | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 233 Rm. 236 Bottle Filler | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 300 Rm. 314 Bottle Filler | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 300 Rm. 324 D.F.          | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |

Page : 4 of 6  
 Work Order : VA23A2048  
 Client : Vancouver School Board  
 Project : Point Grey Secondary



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)       | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|--------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                        |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                        |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS      |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 420 Rm. 417 D.F. | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✔    |
| Total Metals : Total metals in Water by CRC ICPMS      |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm. 404 Bubbler        | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✔    |

Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 816854   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 816854   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 816854   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 816854   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2048</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Point Grey Secondary                            | Date Samples Received   | : 27-Jan-2023 15:15                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 29-Jan-2023                                                       |
| C-O-C number            | : 20-980486                                       | Issue Date              | : 31-Jan-2023 09:30                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 9                                               |                         |                                                                     |
| No. of samples analysed | : 9                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |





General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                                 |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|---------------------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID                | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 816854) |                                 |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A2048-001                 | Corr. 300 Rm. 314 Bottle Filler | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000811        | 0.000812         | 0.0611%              | 20%              | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 816854) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 816854) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 98.3         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                        |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                        |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID       | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 816854) |                        |             |            |        |                          |           |              |                     |      |
| VA23A2048-002                | Corr. 300 Rm. 324 D.F. | Lead, total | 7439-92-1  | E420   | 0.0183 mg/L              | 0.02 mg/L | 91.4         | 70.0                | 130  |



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## Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 980486

Canada Toll Free: 1 800 668 9878

Page of

|                                                                                                                      |                                                                                       |                                                                                                                                                                                                                                    |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                              |                                        |
|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------|----------------------------------------|
| <b>Report To</b><br>Contact and company name below will appear on the final report                                   |                                                                                       | <b>Reports / Recipients</b>                                                                                                                                                                                                        |                 | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             | AFFIX ALS BARCODE LABEL HERE<br>(ALS use only)                               |                                        |
| Company: <u>Vancouver School Board</u>                                                                               |                                                                                       | Select Report Format: <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)                                                                                                |                 | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply<br><input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum<br><input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum<br><input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum<br><input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum<br><input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |             |                                                                              |                                        |
| Contact: <u>Stephen Thomas</u>                                                                                       |                                                                                       | Merge QC/QCI Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                                                                                                                |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                              |                                        |
| Phone: <u>604 713-5637</u>                                                                                           |                                                                                       | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked<br>Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                              |                                        |
| Company address below will appear on the final report                                                                |                                                                                       | Email 1 or Fax: <u>stthomas@usb.bc.ca</u>                                                                                                                                                                                          |                 | Date and Time Required for all E&P TATs: <u>dd-mm-yy hh:mm am/pm</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                                                                              |                                        |
| Street: <u>1549 Clark Drive</u>                                                                                      |                                                                                       | Email 2: <u>rcarell@usb.bc.ca</u>                                                                                                                                                                                                  |                 | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                                                              |                                        |
| City/Province: <u>Vancouver B.C.</u>                                                                                 |                                                                                       | Email 3: <u>jdung@usb.bc.ca</u>                                                                                                                                                                                                    |                 | <b>Analysis Request</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                                                              |                                        |
| Postal Code:                                                                                                         |                                                                                       | Invoice Recipients                                                                                                                                                                                                                 |                 | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                                                                              |                                        |
| Invoice To: Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                    |                                                                                       | Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                                                                                                             |                 | NUMBER OF CONTAINERS<br>Lead                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             | SAMPLES ON HOLD<br>EXTENDED STORAGE REQUIRED<br>SUSPECTED HAZARD (see notes) |                                        |
| Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO                                 |                                                                                       | Email 1 or Fax:                                                                                                                                                                                                                    |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                              |                                        |
| Company:                                                                                                             |                                                                                       | Email 2:                                                                                                                                                                                                                           |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                              |                                        |
| Contact:                                                                                                             |                                                                                       | Email 3:                                                                                                                                                                                                                           |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                              |                                        |
| <b>Project Information</b>                                                                                           |                                                                                       | <b>Oil and Gas Required Fields (client use)</b>                                                                                                                                                                                    |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                              |                                        |
| ALS Account # / Quote #:                                                                                             |                                                                                       | AFB/Cost Center:                                                                                                                                                                                                                   |                 | PO#:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                                                                              |                                        |
| Job #: <u>Point Grey Secondary</u>                                                                                   |                                                                                       | Major/Minor Code:                                                                                                                                                                                                                  |                 | Routing Code:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                                              |                                        |
| PO / AFB:                                                                                                            |                                                                                       | Requisitioner:                                                                                                                                                                                                                     |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                              |                                        |
| LSD:                                                                                                                 |                                                                                       | Location:                                                                                                                                                                                                                          |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                              |                                        |
| ALS Lab Work Order # (ALS use only): <u>A2048</u>                                                                    |                                                                                       | ALS Contact: <u>T. Terannum</u>                                                                                                                                                                                                    |                 | Sampler: <u>R. Lemay</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                                                                              |                                        |
| ALS Sample # (ALS use only)                                                                                          | Sample Identification and/or Coordinates (This description will appear on the report) |                                                                                                                                                                                                                                    | Date (dd-mm-yy) | Time (hh:mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Sample Type |                                                                              |                                        |
| 1                                                                                                                    | Corr. 300 Rm. 314 Bottle Filler                                                       |                                                                                                                                                                                                                                    | 27-01-23        | 7:32am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                                              |                                        |
| 2                                                                                                                    | Corr. 300 Rm. 324 D.F.                                                                |                                                                                                                                                                                                                                    | 27-01-23        | 7:35am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                                              |                                        |
| 3                                                                                                                    | Corr. 200 Rm. 207 D.F.                                                                |                                                                                                                                                                                                                                    | 27-01-23        | 7:41am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                                              |                                        |
| 4                                                                                                                    | Corr. 200 Rm. 220 S.S.D.F.                                                            |                                                                                                                                                                                                                                    | 27-01-23        | 7:45am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                                              |                                        |
| 5                                                                                                                    | Corr. 233 Rm. 236 Bottle Filler                                                       |                                                                                                                                                                                                                                    | 27-01-23        | 7:49am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                                              |                                        |
| 6                                                                                                                    | Boys Change Rm. 241 S.S.D.F.                                                          |                                                                                                                                                                                                                                    | 27-01-23        | 7:52am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                                              |                                        |
| 7                                                                                                                    | Rm. 404 Bubbles                                                                       |                                                                                                                                                                                                                                    | 27-01-23        | 7:56am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                                              |                                        |
| 8                                                                                                                    | Corr. 420 Rm. 417 D.F.                                                                |                                                                                                                                                                                                                                    | 27-01-23        | 8:03am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                                              |                                        |
| 9                                                                                                                    | Corr. 100 Rm. 100A D.F.                                                               |                                                                                                                                                                                                                                    | 27-01-23        | 8:13am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | water       |                                                                              |                                        |
| <b>Drinking Water (DW) Samples<sup>1</sup> (client use)</b>                                                          |                                                                                       | <b>Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)</b>                                                                                                                             |                 | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                                                              |                                        |
| Are samples taken from a Regulated DW System?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                       | No preservatives added                                                                                                                                                                                                             |                 | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                                                                              |                                        |
| Are samples for human consumption/ use?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO       |                                                                                       |                                                                                                                                                                                                                                    |                 | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                                                              |                                        |
|                                                                                                                      |                                                                                       |                                                                                                                                                                                                                                    |                 | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                                              |                                        |
|                                                                                                                      |                                                                                       |                                                                                                                                                                                                                                    |                 | INITIAL COOLER TEMPERATURES °C: <u>8</u> FINAL COOLER TEMPERATURES °C: <u>8</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                              |                                        |
| <b>SHIPMENT RELEASE (client use)</b>                                                                                 |                                                                                       | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                   |                 | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                                                                              |                                        |
| Released by:                                                                                                         | Date:                                                                                 | Time:                                                                                                                                                                                                                              | Received by:    | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Time:       | Received by: <u>RJ</u>                                                       | Date: <u>JAN-27</u> Time: <u>15:15</u> |

Environmental Division  
Vancouver  
Work Order Reference  
**VA23A2048**



Telephone: +1 604 253 4188

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

Results Summary VA23A2048

Project Point Grey Secondary  
Report To Stephen Thomas, Vancouver School Board  
Date Received 27-Jan-2023 15:15  
Issue Date 31-Jan-2023 09:30  
Amendment 0

|                              |                           |       |                                    |                           |                           |                              |                                    |                                 |                      |                           |                            |
|------------------------------|---------------------------|-------|------------------------------------|---------------------------|---------------------------|------------------------------|------------------------------------|---------------------------------|----------------------|---------------------------|----------------------------|
| Client Sample ID             |                           |       | Corr. 300 Rm. 314<br>Bottle Filler | Corr. 300 Rm. 324<br>D.F. | Corr. 200 Rm. 207<br>D.F. | Corr. 200 Rm. 220<br>S.S.D.F | Corr. 233 Rm. 236<br>Bottle Filler | Boys Change Rm. 241<br>S.S.D.F. | Rm. 404 Bubbler      | Corr. 420 Rm. 417<br>D.F. | Corr. 100 Rm. 100A<br>D.F. |
| Date Sampled                 |                           |       | 27-Jan-2023                        | 27-Jan-2023               | 27-Jan-2023               | 27-Jan-2023                  | 27-Jan-2023                        | 27-Jan-2023                     | 27-Jan-2023          | 27-Jan-2023               | 27-Jan-2023                |
| Time Sampled                 |                           |       | 07:32                              | 07:35                     | 07:41                     | 07:45                        | 07:49                              | 07:52                           | 07:56                | 08:03                     | 08:13                      |
| ALS Sample ID                |                           |       | VA23A2048-001                      | VA23A2048-002             | VA23A2048-003             | VA23A2048-004                | VA23A2048-005                      | VA23A2048-006                   | VA23A2048-007        | VA23A2048-008             | VA23A2048-009              |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water      | Sub-Matrix:<br>Water      | Sub-Matrix:<br>Water         | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water            | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water      | Sub-Matrix:<br>Water       |
| Total Metals (Matrix: Water) |                           |       |                                    |                           |                           |                              |                                    |                                 |                      |                           |                            |
| Lead, total                  | 0.000050                  | mg/L  | 0.000811                           | 0.00424                   | 0.00125                   | 0.000874                     | 0.000387                           | 0.00104                         | 0.00140              | 0.00302                   | 0.647                      |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2049</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Prince of Wales Secondary                       | Date Samples Received   | : 27-Jan-2023 15:15                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 29-Jan-2023                                                       |
| C-O-C number            | : 17-866745                                       | Issue Date              | : 30-Jan-2023 19:21                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 9                                               |                         |                                                                     |
| No. of samples analysed | : 9                                               |                         |                                                                     |

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2049</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Prince of Wales Secondary                       | Date Samples Received | : 27-Jan-2023 15:15                                                 |
| PO                      | : ----                                            | Issue Date            | : 30-Jan-2023 19:21                                                 |
| C-O-C number            | : 17-866745                                       |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 9                                               |                       |                                                                     |
| No. of samples analysed | : 9                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.



### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)              | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys change RM 123C DF        | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Cafeteria 102 Bubbler         | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 RM 102 Bottle Filler | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 116 Rm 105 DF            | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 125 RM 101 DF            | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 200 RM 207 DF            | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 205 RM 202 Bottle Filler | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)     | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                      |        |               | Preparation<br>Date      | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                      |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr B100 RM 100A DF | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180<br>days   | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM 118 E DF          | E420   | 27-Jan-2023   | 29-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180<br>days   | 3 days | ✓    |

Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 816854   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 816854   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 816854   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 816854   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2049</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Prince of Wales Secondary                       | Date Samples Received   | : 27-Jan-2023 15:15                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 29-Jan-2023                                                       |
| C-O-C number            | : 17-866745                                       | Issue Date              | : 30-Jan-2023 19:21                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 9                                               |                         |                                                                     |
| No. of samples analysed | : 9                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 816854) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A2048-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000811        | 0.000812         | 0.0611%              | 20%              | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 816854) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 816854) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 98.3         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 816854) |                  |             |            |        |                          |           |              |                     |      |
| VA23A2048-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0183 mg/L              | 0.02 mg/L | 91.4         | 70.0                | 130  |





Environmental

www.alsglobal.com

Canada Toll Free: 1-800-888-9878

Chain-of-Custody (COC) / Analytical Request Form

Affix ALS barcode label here (lab use only)

Page

COC Number: 17-866745

Report To

Contact and company name below will appear on the final report

Report Format / Distribution

Select Service Level Below - Contact your AM to confirm all ESP TATs (surcharges may apply)

Company:

VANCOUVER SCHOOL BOARD

Select Report Format: ☒ PDF ☐ EXCEL ☐ EDD (ORIGINAL)

Contact:

STEPHEN THOMAS

Quality Control (QC) Report with Report ☐ YES ☒ NO

Phone:

604-213-5637

Compare Results to Client's on Report - provide details below if box checked

Street:

1549 Clark drive

Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX

City/Province:

Vancouver BC

Email 1 or Fax: S STEPHEN THOMAS @VSB.BC.CA

Postal Code:

V6C 2A6

Email 2: C STEPHEN THOMAS @VSB.BC.CA

Invoice To

Same as Report To ☐ YES ☒ NO

Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX

Company:

Copy of Invoice with Report ☐ YES ☒ NO

Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX

Contact:

Project Information

Email 1 or Fax: S STEPHEN THOMAS @VSB.BC.CA

ALS Account # / Quote #

Price of Wates secondary

Oil and Gas Required Fields (client use)

Job #

Price of Wates secondary

Routing Code:

PO / A/E

Price of Wates secondary

Routing Code:

LSD

Price of Wates secondary

Routing Code:

ALS Lab Work Order # (lab use only):

A2049

ALS Contact: T. Torrance

ALS Sample # (lab use only)

Sample Identification and/or Coordinates (this description will appear on the report)

Date: (dd-mm-yy) Time: (hh:mm)

ALS Sample # (lab use only)

Sample Type

Sample: K. Messamore

ALS Sample # (lab use only)

Sample Type

Sample: K. Messamore

ALS Sample # (lab use only)

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Sample Type

Sample: K. Messamore

ALS Sample # (lab use only)

Sample Type

Sample: K. Messamore

Results Summary VA23A2049

Project Prince of Wales Secondary  
Report To Stephen Thomas, Vancouver School Board  
Date Received 27-Jan-2023 15:15  
Issue Date 30-Jan-2023 19:22  
Amendment 0

|                              |                        |       |                   |                        |                               |                    |                       |                      |                               |                    |                    |
|------------------------------|------------------------|-------|-------------------|------------------------|-------------------------------|--------------------|-----------------------|----------------------|-------------------------------|--------------------|--------------------|
| Client Sample ID             |                        |       | RM 118 E DF       | Boys change RM 123C DF | Corr 100 RM 102 Bottle Filler | Corr 125 RM 101 DF | Cafeteria 102 Bubbler | Corr B100 RM 100A DF | Corr 205 RM 202 Bottle Filler | Corr 200 RM 207 DF | Corr 116 Rm 105 DF |
| Date Sampled                 |                        |       | 27-Jan-2023       | 27-Jan-2023            | 27-Jan-2023                   | 27-Jan-2023        | 27-Jan-2023           | 27-Jan-2023          | 27-Jan-2023                   | 27-Jan-2023        | 27-Jan-2023        |
| Time Sampled                 |                        |       | 07:05             | 07:08                  | 07:14                         | 07:20              | 07:26                 | 07:29                | 07:34                         | 07:38              | 07:44              |
| ALS Sample ID                |                        |       | VA23A2049-001     | VA23A2049-002          | VA23A2049-003                 | VA23A2049-004      | VA23A2049-005         | VA23A2049-006        | VA23A2049-007                 | VA23A2049-008      | VA23A2049-009      |
| Analyte                      | Lowest Detection Limit | Units | Sub-Matrix: Water | Sub-Matrix: Water      | Sub-Matrix: Water             | Sub-Matrix: Water  | Sub-Matrix: Water     | Sub-Matrix: Water    | Sub-Matrix: Water             | Sub-Matrix: Water  | Sub-Matrix: Water  |
| Total Metals (Matrix: Water) |                        |       |                   |                        |                               |                    |                       |                      |                               |                    |                    |
| Lead, total                  | 0.000050               | mg/L  | 0.000819          | 0.00544                | 0.000308                      | 0.000486           | 0.00176               | 0.00124              | 0.000249                      | 0.00323            | 0.000548           |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0753</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Queen Elizabeth Annex                           | Date Samples Received   | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 14-Jan-2023                                                       |
| C-O-C number            | : 20-1041686                                      | Issue Date              | : 16-Jan-2023 21:14                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0753</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Queen Elizabeth Annex                           | Date Samples Received | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Issue Date            | : 16-Jan-2023 21:14                                                 |
| C-O-C number            | : 20-1041686                                      |                       |                                                                     |
| Sampler                 | : ----                                            |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 2                                               |                       |                                                                     |
| No. of samples analysed | : 2                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

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

| Analyte Group                                                 | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 126 Rm 105 Bottle Filler | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm 121 Kitchen Bub            | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |

### Legend & Qualifier Definitions

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





## Quality Control Parameter Frequency Compliance

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

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |



## Methodology References and Summaries

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

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0753</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Queen Elizabeth Annex                           | Date Samples Received   | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 14-Jan-2023                                                       |
| C-O-C number            | : 20-1041686                                      | Issue Date              | : 16-Jan-2023 21:14                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

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

This Quality Control Report contains the following information:

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

### Signatories

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

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

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

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 801476) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| KS2300097-001                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000500                          | mg/L | <0.000500       | <0.000500        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

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

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 801476) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

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

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 801476) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

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

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 801476) |                  |             |            |        |                          |           |              |                     |      |
| KS2300097-002                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0189 mg/L              | 0.02 mg/L | 94.6         | 70.0                | 130  |



COC Number: 20 - 1041686

**Canada Toll Free: 1 800 668 9878**

Page of

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 2020 FROM

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

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

## Results Summary VA23A0753

|                      |                                        |
|----------------------|----------------------------------------|
| <b>Project</b>       | Queen Elizabeth Annex                  |
| <b>Report To</b>     | Stephen Thomas, Vancouver School Board |
| <b>Date Received</b> | 12-Jan-2023 15:05                      |
| <b>Issue Date</b>    | 16-Jan-2023 21:14                      |
| <b>Amendment</b>     | 0                                      |

|                                     |                           |       |                                  |                      |
|-------------------------------------|---------------------------|-------|----------------------------------|----------------------|
| Client Sample ID                    |                           |       | Corr 126 Rm 105<br>Bottle Filler | Rm 121 Kitchen Bub   |
| Date Sampled                        |                           |       | 12-Jan-2023                      | 12-Jan-2023          |
| Time Sampled                        |                           |       | 07:40                            | 07:45                |
| ALS Sample ID                       |                           |       | VA23A0753-001                    | VA23A0753-002        |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                                  |                      |
| lead, total                         | 0.000050                  | mg/L  | 0.000411                         | 0.00956              |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0750</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Queen Elizabeth Elementary                      | Date Samples Received   | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Jan-2023                                                       |
| C-O-C number            | : 20-1041687                                      | Issue Date              | : 16-Jan-2023 16:34                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

---

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

---

### Signatories

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

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |





## No Breaches Found

### General Comments

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

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

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

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

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0750</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Queen Elizabeth Elementary                      | Date Samples Received | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Issue Date            | : 16-Jan-2023 16:34                                                 |
| C-O-C number            | : 20-1041687                                      |                       |                                                                     |
| Sampler                 | : ----                                            |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 5                                               |                       |                                                                     |
| No. of samples analysed | : 5                                               |                       |                                                                     |

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

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

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

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)    | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                     |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                     |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS   |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 119 Rm 121 DF  | E420   | 12-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS   |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 136 Rm 110 DF  | E420   | 12-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS   |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 136 Rm 135A BF | E420   | 12-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS   |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 140 Rm 140A DF | E420   | 12-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS   |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Portable 416 Bub    | E420   | 12-Jan-2023   | 13-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 5 days | ✓    |

### Legend & Qualifier Definitions

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



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801473   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801473   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801473   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801473   | 1     | 19      | 5.2           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0750</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Queen Elizabeth Elementary                      | Date Samples Received   | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 13-Jan-2023                                                       |
| C-O-C number            | : 20-1041687                                      | Issue Date              | : 16-Jan-2023 16:34                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

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This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |





General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

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- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 801473) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0712-001                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000100                          | mg/L | <0.000100       | <0.000100        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 801473) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 801473) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 100          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 801473) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0712-002                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0376 mg/L              | 0.04 mg/L | 94.1         | 70.0                | 130  |



7269

COC Number: 20 - 1041687

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REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Results Summary VA23A0750

|               |                                        |
|---------------|----------------------------------------|
| Project       | Queen Elizabeth Elementary             |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 12-Jan-2023 15:05                      |
| Issue Date    | 16-Jan-2023 16:34                      |
| Amendment     | 0                                      |

|                              |                           |       |                      |                      |                      |                      |                      |
|------------------------------|---------------------------|-------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Client Sample ID             |                           |       | Corr 136 Rm 110 DF   | Corr 140 Rm 140A DF  | Corr 136 Rm 135A BF  | Corr 119 Rm 121 DF   | Portable 416 Bub     |
| Date Sampled                 |                           |       | 12-Jan-2023          | 12-Jan-2023          | 12-Jan-2023          | 12-Jan-2023          | 12-Jan-2023          |
| Time Sampled                 |                           |       | 07:05                | 07:10                | 07:14                | 07:20                | 07:22                |
| ALS Sample ID                |                           |       | VA23A0750-001        | VA23A0750-002        | VA23A0750-003        | VA23A0750-004        | VA23A0750-005        |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water |
| Total Metals (Matrix: Water) |                           |       |                      |                      |                      |                      |                      |
| lead, total                  | 0.000050                  | mg/L  | 0.000346             | 0.00109              | <0.000050            | 0.00183              | 0.000093             |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0957</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Queen Victoria Elementary                       | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041697                                      | Issue Date              | : 18-Jan-2023 09:06                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>                         | <i>Laboratory Department</i>      |
|--------------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte       | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0957</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Queen Victoria Elementary                       | Date Samples Received | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 18-Jan-2023 09:05                                                 |
| C-O-C number            | : 20-1041697                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 3                                               |                       |                                                                     |
| No. of samples analysed | : 3                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.



### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)        | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                         |        |               | Preparation<br>Date      | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                         |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 112 D.F.  | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 18-Jan-2023   | 180<br>days   | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 122A B.F. | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 18-Jan-2023   | 180<br>days   | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 125 D.F.  | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 18-Jan-2023   | 180<br>days   | 2 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0957</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Queen Victoria Elementary                       | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041697                                      | Issue Date              | : 18-Jan-2023 09:05                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                        |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID       | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 804403) |                        |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0957-001                 | Corr. 100 Rm. 125 D.F. | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.00105         | 0.00106          | 0.341%               | 20%              | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 804403) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 804403) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                         |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|-------------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                         |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID        | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 804403) |                         |             |            |        |                          |           |              |                     |      |
| VA23A0957-002                | Corr. 100 Rm. 122A B.F. | Lead, total | 7439-92-1  | E420   | 0.0186 mg/L              | 0.02 mg/L | 92.8         | 70.0                | 130  |



COC Number: 20-1041697

**Canada Toll Free: 1 800 668 9878**

Page of

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**White Paper Co. 604 951-3900**

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.



## Results Summary VA23A0957

|                      |                                        |
|----------------------|----------------------------------------|
| <b>Project</b>       | Queen Victoria Elementary              |
| <b>Report To</b>     | Stephen Thomas, Vancouver School Board |
| <b>Date Received</b> | 16-Jan-2023 15:00                      |
| <b>Issue Date</b>    | 18-Jan-2023 09:06                      |
| <b>Amendment</b>     | 0                                      |

|                                     |                           |       |                           |                            |                           |
|-------------------------------------|---------------------------|-------|---------------------------|----------------------------|---------------------------|
| Client Sample ID                    |                           |       | Corr. 100 Rm. 125<br>D.F. | Corr. 100 Rm. 122A<br>B.F. | Corr. 100 Rm. 112<br>D.F. |
| Date Sampled                        |                           |       | 16-Jan-2023               | 16-Jan-2023                | 16-Jan-2023               |
| Time Sampled                        |                           |       | 07:36                     | 07:42                      | 07:47                     |
| ALS Sample ID                       |                           |       | VA23A0957-001             | VA23A0957-002              | VA23A0957-003             |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water      | Sub-Matrix:<br>Water       | Sub-Matrix:<br>Water      |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                           |                            |                           |
| Lead, total                         | 0.000050                  | mg/L  | 0.00105                   | 0.000238                   | 0.000488                  |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0752</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Quilchena Elementary                            | Date Samples Received   | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 14-Jan-2023                                                       |
| C-O-C number            | : 20-1041693                                      | Issue Date              | : 16-Jan-2023 21:14                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0752</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Quilchena Elementary                            | Date Samples Received | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Issue Date            | : 16-Jan-2023 21:14                                                 |
| C-O-C number            | : 20-1041693                                      |                       |                                                                     |
| Sampler                 | : ----                                            |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 3                                               |                       |                                                                     |
| No. of samples analysed | : 3                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)                  | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                   |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                   |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS                 |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 2021 RM 201A DF              | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                 |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Playarea 112 Rm 107 Bottle Filler | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                 |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Playarea 112 Rm 111 DF            | E420   | 12-Jan-2023   | 14-Jan-2023              | ----          | ----   |      | 16-Jan-2023   | 180 days      | 4 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 801476   | 1     | 19      | 5.2           | 5.0      | ✓          |





## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0752</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Quilchena Elementary                            | Date Samples Received   | : 12-Jan-2023 15:05                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 14-Jan-2023                                                       |
| C-O-C number            | : 20-1041693                                      | Issue Date              | : 16-Jan-2023 21:14                                                 |
| Sampler                 | : ----                                            |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 801476) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| KS2300097-001                 | Anonymous        | lead, total | 7439-92-1  | E420   | 0.000500                          | mg/L | <0.000500       | <0.000500        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 801476) |            |        |         |      |           |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 801476) |            |        |         |      |                                        |              |                     |      |           |
| lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 801476) |                  |             |            |        |                          |           |              |                     |      |
| KS2300097-002                | Anonymous        | lead, total | 7439-92-1  | E420   | 0.0189 mg/L              | 0.02 mg/L | 94.6         | 70.0                | 130  |



COC Number: 20 - 1041693

**Canada Toll Free: 1 800 668 9878**

Page of

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 2020 FROM

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

## Results Summary VA23A0752

|                      |                                        |
|----------------------|----------------------------------------|
| <b>Project</b>       | Quilchena Elementary                   |
| <b>Report To</b>     | Stephen Thomas, Vancouver School Board |
| <b>Date Received</b> | 12-Jan-2023 15:05                      |
| <b>Issue Date</b>    | 16-Jan-2023 21:14                      |
| <b>Amendment</b>     | 0                                      |

|                                     |                           |       |                                      |                           |                         |
|-------------------------------------|---------------------------|-------|--------------------------------------|---------------------------|-------------------------|
| Client Sample ID                    |                           |       | Playarea 112 Rm 107<br>Bottle Filler | Playarea 112 Rm 111<br>DF | Corr 2021 RM 201A<br>DF |
| Date Sampled                        |                           |       | 12-Jan-2023                          | 12-Jan-2023               | 12-Jan-2023             |
| Time Sampled                        |                           |       | 08:36                                | 08:39                     | 08:43                   |
| ALS Sample ID                       |                           |       | VA23A0752-001                        | VA23A0752-002             | VA23A0752-003           |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water                 | Sub-Matrix:<br>Water      | Sub-Matrix:<br>Water    |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                                      |                           |                         |
| lead, total                         | 0.000050                  | mg/L  | 0.000121                             | 0.000145                  | 0.0114                  |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2143</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Laura Secord Elementary                         | Date Samples Received   | : 30-Jan-2023 15:50                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 31-Jan-2023                                                       |
| C-O-C number            | : 20-1041043                                      | Issue Date              | : 01-Feb-2023 08:46                                                 |
| Sampler                 | : K. Messamore, R. Lemay                          |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 6                                               |                         |                                                                     |
| No. of samples analysed | : 6                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.





Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2143</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Laura Secord Elementary                         | Date Samples Received | : 30-Jan-2023 15:50                                                 |
| PO                      | : ----                                            | Issue Date            | : 01-Feb-2023 08:46                                                 |
| C-O-C number            | : 20-1041043                                      |                       |                                                                     |
| Sampler                 | : K. Messamore, R. Lemay                          |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 6                                               |                       |                                                                     |
| No. of samples analysed | : 6                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

#### **Outliers : Analysis Holding Time Compliance (Breaches)**

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                  | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 00A Rm 000J SSDF          | E420   | 30-Jan-2023   | 31-Jan-2023              | ----          | ----   |      | 01-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 062 Rm 063 SSDF           | E420   | 30-Jan-2023   | 31-Jan-2023              | ----          | ----   |      | 01-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 Rm 100E Bottle Filler | E420   | 30-Jan-2023   | 31-Jan-2023              | ----          | ----   |      | 01-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 Rm 103 FGDF           | E420   | 30-Jan-2023   | 31-Jan-2023              | ----          | ----   |      | 01-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 160 Rm 162 SSDF           | E420   | 30-Jan-2023   | 31-Jan-2023              | ----          | ----   |      | 01-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 200 Rm 200E SSDF          | E420   | 30-Jan-2023   | 31-Jan-2023              | ----          | ----   |      | 01-Feb-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 818559   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 818559   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 818559   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 818559   | 0     | 15      | 0.0           | 5.0      | ✗          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2143</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Laura Secord Elementary                         | Date Samples Received   | : 30-Jan-2023 15:50                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 31-Jan-2023                                                       |
| C-O-C number            | : 20-1041043                                      | Issue Date              | : 01-Feb-2023 08:46                                                 |
| Sampler                 | : K. Messamore, R. Lemay                          |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 6                                               |                         |                                                                     |
| No. of samples analysed | : 6                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



## General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.  
 CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.  
 DQO = Data Quality Objective.  
 LOR = Limit of Reporting (detection limit).  
 RPD = Relative Percent Difference  
 # = Indicates a QC result that did not meet the ALS DQO.

## Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

## Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

|                                      |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|--------------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID                 | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| <b>Total Metals (QC Lot: 818559)</b> |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| YL2300067-001                        | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.00100                           | mg/L | 0.00391         | 0.00378          | 0.000130             | Diff <2x LOR     | ----      |

## Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

| Analyte                              | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
|--------------------------------------|------------|--------|---------|------|-----------|-----------|
| <b>Total Metals (QC Lot: 818559)</b> |            |        |         |      |           |           |
| Lead, total                          | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |





Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 818559) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 101          | 80.0                | 120  | ----      |



www.alsglobal.com

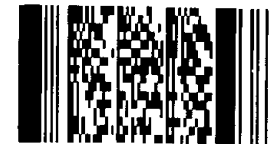
# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 1041043

Page

Environmental Division  
Vancouver  
Work Order Reference  
**VA23A2143**



Telephone : +1 604 253 4188

|                                                                                                                      |                                                                                       |                                                                                                                                     |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| <b>Report To</b><br>Contact and company name below will appear on the final report                                   |                                                                                       | <b>Reports / Recipients</b>                                                                                                         |              | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company: VANCOUVER SCHOOL BOARD                                                                                      |                                                                                       | Select Report Format: <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) |              | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                                                                                                                                                                                                                                                                                                                                                      |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Contact: STEPHEN THOMAS                                                                                              |                                                                                       | Merge QC/QCI Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                 |              | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                           |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Phone: 604-713-5632                                                                                                  |                                                                                       | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked                               |              | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                           |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company address below will appear on the final report                                                                |                                                                                       | Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX           |              | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                           |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Street: 1549 Clark drive                                                                                             |                                                                                       | Email 1 or Fax: S.S. THOMAS @USB.BC.CA                                                                                              |              | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                           |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| City/Province: VANCOUVER BC                                                                                          |                                                                                       | Email 2: C. CARRELL @USB.BC.CA                                                                                                      |              | <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Add may apply to rush requests on weekends, statutory holidays and non-                                                                                                                                                                                                                                                                                                                     |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Postal Code:                                                                                                         |                                                                                       | Email 3: J. DUON @USB.BC.CA                                                                                                         |              | Date and Time Required for all E&P TATs:                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Invoice To: Same as Report To <input type="checkbox"/> YES <input type="checkbox"/> NO                               |                                                                                       | <b>Invoice Recipients</b>                                                                                                           |              | For all tests with rush TATs requested, please                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO                                 |                                                                                       | Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX              |              | Analysis Re                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company:                                                                                                             |                                                                                       | Email 1 or Fax:                                                                                                                     |              | <table border="1"> <tr> <td rowspan="5">NUMBER OF CONTAINERS</td> <td rowspan="5">LEAD</td> <td colspan="12">Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below</td> <td rowspan="5">SAMPLES ON HOLD</td> <td rowspan="5">EXTENDED STORAGE REQUIRED</td> <td rowspan="5">SUSPECTED HAZARD (see notes)</td> </tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> </table> |       | NUMBER OF CONTAINERS | LEAD | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below |  |  |  |  |  |                 |                           |                              |  |  |  | SAMPLES ON HOLD | EXTENDED STORAGE REQUIRED | SUSPECTED HAZARD (see notes) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NUMBER OF CONTAINERS                                                                                                 | LEAD                                                                                  | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                          |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                      |      |                                                                            |  |  |  |  |  | SAMPLES ON HOLD | EXTENDED STORAGE REQUIRED | SUSPECTED HAZARD (see notes) |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                                                      |                                                                                       |                                                                                                                                     |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      |                                                                                       |                                                                                                                                     |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      |                                                                                       |                                                                                                                                     |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Contact:                                                                                                             |                                                                                       | Email 2:                                                                                                                            |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Project Information</b>                                                                                           |                                                                                       | <b>Oil and Gas Required Fields (client use)</b>                                                                                     |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALS Account # / Quote #                                                                                              |                                                                                       | AFE/Cost Center:                                                                                                                    |              | PO#                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Job #: LAURA SECORD ELEMENTARY                                                                                       |                                                                                       | Major/Minor Code:                                                                                                                   |              | Routing Code:                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PO / AFE:                                                                                                            |                                                                                       | Requisitioner:                                                                                                                      |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LSD:                                                                                                                 |                                                                                       | Location:                                                                                                                           |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALS Lab Work Order # (ALS use only): 2143                                                                            |                                                                                       | ALS Contact: T. TARANNUM                                                                                                            |              | Sampler: K. MESSAMORE                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALS Sample # (ALS use only)                                                                                          | Sample Identification and/or Coordinates (This description will appear on the report) | Date (dd-mm-yy)                                                                                                                     | Time (hh:mm) | Sample Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 100 RM 103 FADF                                                                  | 30-JAN-23                                                                                                                           | 7:05         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 062 RM 063 SSDF                                                                  | 30-JAN-23                                                                                                                           | 7:14         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 00A RM 000J SSDF                                                                 | 30-JAN-23                                                                                                                           | 7:20         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 100 RM 100E Bottle Filler                                                        | 30-JAN-23                                                                                                                           | 7:24         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 160 RM 162 SSDF                                                                  | 30-JAN-23                                                                                                                           | 7:24         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 200 RM 200E SSDF                                                                 | 30-JAN-23                                                                                                                           | 7:34         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Drinking Water (DW) Samples<sup>1</sup> (client use)</b>                                                          |                                                                                       | <b>Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)</b>                              |              | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Are samples taken from a Regulated DW System?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                       | No preservatives added                                                                                                              |              | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                               |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Are samples for human consumption/ use?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO       |                                                                                       |                                                                                                                                     |              | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                           |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      |                                                                                       |                                                                                                                                     |              | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                     |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      |                                                                                       |                                                                                                                                     |              | INITIAL COOLER TEMPERATURES °C: 4 FINAL COOLER TEMPERATURES °C: 4                                                                                                                                                                                                                                                                                                                                                                                                                 |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>SHIPMENT RELEASE (client use)</b>                                                                                 |                                                                                       | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                    |              | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Released by:                                                                                                         | Date:                                                                                 | Time:                                                                                                                               | Received by: | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Time: |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      |                                                                                       |                                                                                                                                     |              | 01/30/23                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 15:50 |                      |      |                                                                            |  |  |  |  |  |                 |                           |                              |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

# Results Summary VA23A2143

|                              |                                        |       |                         |                         |                          |                                   |                         |                          |
|------------------------------|----------------------------------------|-------|-------------------------|-------------------------|--------------------------|-----------------------------------|-------------------------|--------------------------|
| Project                      | Laura Secord Elementary                |       |                         |                         |                          |                                   |                         |                          |
| Report To                    | Stephen Thomas, Vancouver School Board |       |                         |                         |                          |                                   |                         |                          |
| Date Received                | 30-Jan-2023 15:50                      |       |                         |                         |                          |                                   |                         |                          |
| Issue Date                   | 01-Feb-2023 08:46                      |       |                         |                         |                          |                                   |                         |                          |
| Amendment                    | 0                                      |       |                         |                         |                          |                                   |                         |                          |
|                              |                                        |       | Corr 100 Rm 103<br>FGDF | Corr 062 Rm 063<br>SSDF | Corr 00A Rm 000J<br>SSDF | Corr 100 Rm 100E<br>Bottle Filler | Corr 160 Rm 162<br>SSDF | Corr 200 Rm 200E<br>SSDF |
| Client Sample ID             |                                        |       | 30-Jan-2023             | 30-Jan-2023             | 30-Jan-2023              | 30-Jan-2023                       | 30-Jan-2023             | 30-Jan-2023              |
| Date Sampled                 |                                        |       | 07:05                   | 07:14                   | 07:20                    | 07:22                             | 07:24                   | 07:34                    |
| Time Sampled                 |                                        |       | VA23A2143-001           | VA23A2143-002           | VA23A2143-003            | VA23A2143-004                     | VA23A2143-005           | VA23A2143-006            |
| ALS Sample ID                |                                        |       | Sub-Matrix:<br>Water    | Sub-Matrix:<br>Water    | Sub-Matrix:<br>Water     | Sub-Matrix:<br>Water              | Sub-Matrix:<br>Water    | Sub-Matrix:<br>Water     |
| Analyte                      | Lowest<br>Detection Limit              | Units |                         |                         |                          |                                   |                         |                          |
| Total Metals (Matrix: Water) |                                        |       |                         |                         |                          |                                   |                         |                          |
| Lead, total                  | 0.000050                               | mg/L  | 0.00101                 | 0.000200                | 0.000055                 | <0.000050                         | 0.000173                | 0.000172                 |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1536</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Selkirk Annex                              | Date Samples Received   | : 23-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 25-Jan-2023                                                       |
| C-O-C number            | : 20-1041041                                      | Issue Date              | : 25-Jan-2023 20:10                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1536</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Lord Selkirk Annex                              | Date Samples Received | : 23-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 25-Jan-2023 20:10                                                 |
| C-O-C number            | : 20-1041041                                      |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 2                                               |                       |                                                                     |
| No. of samples analysed | : 2                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.





## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                 | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| Container / Client Sample ID(s)                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 RM 105 DF            | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 RM 115 Bottle Filler | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1536</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Selkirk Annex                              | Date Samples Received   | : 23-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 25-Jan-2023                                                       |
| C-O-C number            | : 20-1041041                                      | Issue Date              | : 25-Jan-2023 20:10                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 812521) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| KS2300221-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000500                          | mg/L | <0.000500       | <0.000500        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 812521) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 812521) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 812521) |                  |             |            |        |                          |           |              |                     |      |
| KS2300224-001                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0192 mg/L              | 0.02 mg/L | 96.0         | 70.0                | 130  |



COC Number: 20 - 1041041

**Canada Toll Free: 1 800 668 9878**

Page of

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 2020 FROM

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

## Results Summary VA23A1536

|                      |                                        |
|----------------------|----------------------------------------|
| <b>Project</b>       | Lord Selkirk Annex                     |
| <b>Report To</b>     | Stephen Thomas, Vancouver School Board |
| <b>Date Received</b> | 23-Jan-2023 15:00                      |
| <b>Issue Date</b>    | 25-Jan-2023 20:10                      |
| <b>Amendment</b>     | 0                                      |

|                                     |                           |       |                                  |                      |
|-------------------------------------|---------------------------|-------|----------------------------------|----------------------|
| Client Sample ID                    |                           |       | Corr 100 RM 115<br>Bottle Filler | Corr 100 RM 105 DF   |
| Date Sampled                        |                           |       | 23-Jan-2023                      | 23-Jan-2023          |
| Time Sampled                        |                           |       | 10:14                            | 10:17                |
| ALS Sample ID                       |                           |       | VA23A1536-001                    | VA23A1536-002        |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                                  |                      |
| Lead, total                         | 0.000050                  | mg/L  | 0.000610                         | 0.00161              |



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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1537</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Selkirk Elementary                         | Date Samples Received   | : 23-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 25-Jan-2023                                                       |
| C-O-C number            | : 20-1038772                                      | Issue Date              | : 25-Jan-2023 20:11                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 8                                               |                         |                                                                     |
| No. of samples analysed | : 8                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1537</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Lord Selkirk Elementary                         | Date Samples Received | : 23-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 25-Jan-2023 20:11                                                 |
| C-O-C number            | : 20-1038772                                      |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 8                                               |                       |                                                                     |
| No. of samples analysed | : 8                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                 | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Basement 005 RM 022 SSDF      | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys Change RM 022 DF         | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 RM 110 Bottle Filler | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 217 RM 214 Bottle Filler | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>PLAY AREA 005 Bottle Filler   | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM 102 Building 109C DF       | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Stair 199 Bottle Filler       | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 2 days | ✓    |

Page : 4 of 6  
 Work Order : VA23A1537  
 Client : Vancouver School Board  
 Project : Lord Selkirk Elementary



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                     | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| Container / Client Sample ID(s)                   |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                   |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
|                                                   |        |               |                          |               |        |      |               |               |        |      |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Stair 299 SSDF    | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180 days      | 2 days | ✓    |

**Legend & Qualifier Definitions**

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |





## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1537</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Selkirk Elementary                         | Date Samples Received   | : 23-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 25-Jan-2023                                                       |
| C-O-C number            | : 20-1038772                                      | Issue Date              | : 25-Jan-2023 20:11                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 8                                               |                         |                                                                     |
| No. of samples analysed | : 8                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 812521) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| KS2300221-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000500                          | mg/L | <0.000500       | <0.000500        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 812521) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 812521) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 812521) |                  |             |            |        |                          |           |              |                     |      |
| KS2300224-001                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0192 mg/L              | 0.02 mg/L | 96.0         | 70.0                | 130  |



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## Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20-1038772

Page of

| Report To                                                                                                         |                                                                                       | Contact and company name below will appear on the final report |  | Reports / Recipients                                                                                  |                                                                                                               | Turnaround Time (TAT) Requested                                                                                                                                                                     |                                                                                                                                                                                        | AFFIX ALS BARCODE LABEL HERE (ALS use only)                                |  |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--|
| Company:                                                                                                          | VANCOUVER SCHOOL BOARD                                                                |                                                                |  | Select Report Format:                                                                                 | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                                                                        |                                                                                                                                                                                        |                                                                            |  |
| Contact:                                                                                                          | STEPHEN THOMAS                                                                        |                                                                |  | Merge QC/QCI Reports with COA                                                                         | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum                                                                                                             |                                                                                                                                                                                        |                                                                            |  |
| Phone:                                                                                                            | 604-713-5637                                                                          |                                                                |  | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked |                                                                                                               | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum                                                                                                             |                                                                                                                                                                                        |                                                                            |  |
| Company address below will appear on the final report                                                             |                                                                                       |                                                                |  | Select Distribution:                                                                                  | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum                                                                                                             |                                                                                                                                                                                        |                                                                            |  |
| Street:                                                                                                           | 1549 Clark drive                                                                      |                                                                |  | Email 1 or Fax                                                                                        | SSTHOMAS@VSB.BC.CA                                                                                            |                                                                                                                                                                                                     | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum                                                                                                |                                                                            |  |
| City/Province:                                                                                                    | VANCOUVER BC                                                                          |                                                                |  | Email 2                                                                                               | CCorrell@VSB.BC.CA                                                                                            |                                                                                                                                                                                                     | <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |                                                                            |  |
| Postal Code:                                                                                                      |                                                                                       |                                                                |  | Email 3                                                                                               | Jduong@VSB.BC.CA                                                                                              |                                                                                                                                                                                                     |                                                                                                                                                                                        |                                                                            |  |
| Invoice To                                                                                                        | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                |  | Select Invoice Distribution:                                                                          |                                                                                                               | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                                                                                                           |                                                                                                                                                                                        |                                                                            |  |
| Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO                              |                                                                                       |                                                                |  | Invoice Recipients                                                                                    |                                                                                                               | Date and Time Required for all E&P TATs:                                                                                                                                                            |                                                                                                                                                                                        | dd-mm-yy hh:mm am/pm                                                       |  |
| Company:                                                                                                          |                                                                                       |                                                                |  | Email 1 or Fax                                                                                        |                                                                                                               | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                             |                                                                                                                                                                                        | Analysis Request                                                           |  |
| Contact:                                                                                                          |                                                                                       |                                                                |  | Email 2                                                                                               |                                                                                                               |                                                                                                                                                                                                     |                                                                                                                                                                                        | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below |  |
| Project Information                                                                                               |                                                                                       |                                                                |  | Oil and Gas Required Fields (client use)                                                              |                                                                                                               |                                                                                                                                                                                                     |                                                                                                                                                                                        | NUMBER OF CONTAINERS                                                       |  |
| ALS Account # / Quote #                                                                                           |                                                                                       |                                                                |  | AFE/Cost Center:                                                                                      | PO#                                                                                                           |                                                                                                                                                                                                     |                                                                                                                                                                                        | LEAD                                                                       |  |
| Job #:                                                                                                            | LORD SELKIRK ELEMENTARY                                                               |                                                                |  | Major/Minor Code:                                                                                     | Routing Code:                                                                                                 |                                                                                                                                                                                                     |                                                                                                                                                                                        | SAMPLES ON HOLD                                                            |  |
| PO / AFE:                                                                                                         |                                                                                       |                                                                |  | Requisitioner:                                                                                        |                                                                                                               |                                                                                                                                                                                                     |                                                                                                                                                                                        | EXTENDED STORAGE REQUIRED                                                  |  |
| LSD:                                                                                                              |                                                                                       |                                                                |  | Location:                                                                                             |                                                                                                               |                                                                                                                                                                                                     |                                                                                                                                                                                        | SUSPECTED HAZARD (see notes)                                               |  |
| ALS Lab Work Order # (ALS use only): 1537                                                                         |                                                                                       |                                                                |  | ALS Contact: T. Toranum                                                                               |                                                                                                               | Sampler: K. Messmore                                                                                                                                                                                |                                                                                                                                                                                        |                                                                            |  |
| ALS Sample # (ALS use only)                                                                                       | Sample Identification and/or Coordinates (This description will appear on the report) |                                                                |  | Date (dd-mm-yy)                                                                                       | Time (hh:mm)                                                                                                  | Sample Type                                                                                                                                                                                         |                                                                                                                                                                                        |                                                                            |  |
|                                                                                                                   | RM 102 Building 109C DF                                                               |                                                                |  | 23-JAN-23                                                                                             | 9:30                                                                                                          | WATER                                                                                                                                                                                               |                                                                                                                                                                                        |                                                                            |  |
|                                                                                                                   | STAIR 199 Bottle Filler                                                               |                                                                |  | 23-JAN-23                                                                                             | 9:34                                                                                                          | WATER                                                                                                                                                                                               |                                                                                                                                                                                        |                                                                            |  |
|                                                                                                                   | STAIR 299 SSDF                                                                        |                                                                |  | 23-JAN-23                                                                                             | 9:36                                                                                                          | WATER                                                                                                                                                                                               |                                                                                                                                                                                        |                                                                            |  |
|                                                                                                                   | BASEMENT 001 RM 022 SSDF                                                              |                                                                |  | 23-JAN-23                                                                                             | 9:40                                                                                                          | WATER                                                                                                                                                                                               |                                                                                                                                                                                        |                                                                            |  |
|                                                                                                                   | Corr 100 RM 110 Bottle Filler                                                         |                                                                |  | 23-JAN-23                                                                                             | 9:44                                                                                                          | WATER                                                                                                                                                                                               |                                                                                                                                                                                        |                                                                            |  |
|                                                                                                                   | Boys change RM 022 DF                                                                 |                                                                |  | 23-JAN-23                                                                                             | 9:50                                                                                                          | WATER                                                                                                                                                                                               |                                                                                                                                                                                        |                                                                            |  |
|                                                                                                                   | PLAY AREA 005 Bottle Filler                                                           |                                                                |  | 23-JAN-23                                                                                             | 9:52                                                                                                          | WATER                                                                                                                                                                                               |                                                                                                                                                                                        |                                                                            |  |
|                                                                                                                   | Corr 217 RM 214 Bottle Filler                                                         |                                                                |  | 23-JAN-23                                                                                             | 10:00                                                                                                         | WATER                                                                                                                                                                                               |                                                                                                                                                                                        |                                                                            |  |
| Drinking Water (DW) Samples (client use)                                                                          |                                                                                       |                                                                |  | Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)       |                                                                                                               | SAMPLE RECEIPT DETAILS (ALS use only)                                                                                                                                                               |                                                                                                                                                                                        |                                                                            |  |
| Are samples taken from a Regulated DW System? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                       |                                                                |  | No preservatives added                                                                                |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED |                                                                                                                                                                                        |                                                                            |  |
| Are samples for human consumption/ use? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO       |                                                                                       |                                                                |  |                                                                                                       |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                             |                                                                                                                                                                                        |                                                                            |  |
|                                                                                                                   |                                                                                       |                                                                |  |                                                                                                       |                                                                                                               | Cooler Custody Seals Intact: <input checked="" type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A            |                                                                                                                                                                                        |                                                                            |  |
|                                                                                                                   |                                                                                       |                                                                |  |                                                                                                       |                                                                                                               | INITIAL COOLER TEMPERATURES °C: 7° FINAL COOLER TEMPERATURES °C: 7°                                                                                                                                 |                                                                                                                                                                                        |                                                                            |  |
| SHIPMENT RELEASE (client use)                                                                                     |                                                                                       |                                                                |  | INITIAL SHIPMENT RECEPTION (ALS use only)                                                             |                                                                                                               | FINAL SHIPMENT RECEPTION (ALS use only)                                                                                                                                                             |                                                                                                                                                                                        |                                                                            |  |
| Released by:                                                                                                      |                                                                                       | Date:                                                          |  | Received by:                                                                                          |                                                                                                               | Date:                                                                                                                                                                                               |                                                                                                                                                                                        | Time:                                                                      |  |
|                                                                                                                   |                                                                                       |                                                                |  |                                                                                                       |                                                                                                               | JH                                                                                                                                                                                                  |                                                                                                                                                                                        | JAN 23/2023 15:00                                                          |  |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

AUG 2020 FRONT

Results Summary VA23A1537

|                              |                                        |       |                         |                         |                   |                          |                               |                       |                             |                               |
|------------------------------|----------------------------------------|-------|-------------------------|-------------------------|-------------------|--------------------------|-------------------------------|-----------------------|-----------------------------|-------------------------------|
| Project                      | Lord Selkirk Elementary                |       |                         |                         |                   |                          |                               |                       |                             |                               |
| Report To                    | Stephen Thomas, Vancouver School Board |       |                         |                         |                   |                          |                               |                       |                             |                               |
| Date Received                | 23-Jan-2023 15:00                      |       |                         |                         |                   |                          |                               |                       |                             |                               |
| Issue Date                   | 25-Jan-2023 20:11                      |       |                         |                         |                   |                          |                               |                       |                             |                               |
| Amendment                    | 0                                      |       |                         |                         |                   |                          |                               |                       |                             |                               |
| Client Sample ID             |                                        |       | RM 102 Building 109C DF | Stair 199 Bottle Filler | Stair 299 SSDF    | Basement 005 RM 022 SSDF | Corr 100 RM 110 Bottle Filler | Boys Change RM 022 DF | PLAY AREA 005 Bottle Filler | Corr 217 RM 214 Bottle Filler |
| Date Sampled                 |                                        |       | 23-Jan-2023             | 23-Jan-2023             | 23-Jan-2023       | 23-Jan-2023              | 23-Jan-2023                   | 23-Jan-2023           | 23-Jan-2023                 | 23-Jan-2023                   |
| Time Sampled                 |                                        |       | 09:30                   | 09:34                   | 09:36             | 09:40                    | 09:44                         | 09:50                 | 09:52                       | 10:00                         |
| ALS Sample ID                |                                        |       | VA23A1537-001           | VA23A1537-002           | VA23A1537-003     | VA23A1537-004            | VA23A1537-005                 | VA23A1537-006         | VA23A1537-007               | VA23A1537-008                 |
| Analyte                      | Lowest Detection Limit                 | Units | Sub-Matrix: Water       | Sub-Matrix: Water       | Sub-Matrix: Water | Sub-Matrix: Water        | Sub-Matrix: Water             | Sub-Matrix: Water     | Sub-Matrix: Water           | Sub-Matrix: Water             |
| Total Metals (Matrix: Water) |                                        |       |                         |                         |                   |                          |                               |                       |                             |                               |
| Lead, total                  | 0.000050                               | mg/L  | 0.00532                 | 0.000119                | 0.000192          | 0.000173                 | 0.000462                      | 0.00144               | 0.000084                    | 0.000121                      |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0955</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Admiral Seymour Elementary                      | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041698                                      | Issue Date              | : 17-Jan-2023 21:16                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 7                                               |                         |                                                                     |
| No. of samples analysed | : 7                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>      | <i>Laboratory Department</i>      |
|--------------------|----------------------|-----------------------------------|
| Robin Weeks        | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.





Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0955</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Admiral Seymour Elementary                      | Date Samples Received | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 17-Jan-2023 21:16                                                 |
| C-O-C number            | : 20-1041698                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 7                                               |                       |                                                                     |
| No. of samples analysed | : 7                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                    | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                  |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                  |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys change 010 SSDF             | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Build 121B Corr 100 Rm B111 BF   | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Build 121B Corr 200 Rm B216 SSDF | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Cor 100 Rm 106 Bottle Filler     | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 011 Rm 008 SSDF             | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 Rm 101 DF               | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 200 Rm 208 DF               | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |



Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0955</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Admiral Seymour Elementary                      | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041698                                      | Issue Date              | : 17-Jan-2023 21:16                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 7                                               |                         |                                                                     |
| No. of samples analysed | : 7                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |





General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 804402) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0952-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000154        | 0.000155         | 0.000002             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 804402) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 804402) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 804402) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0952-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0190 mg/L              | 0.02 mg/L | 94.9         | 70.0                | 130  |

## Chain of Custody (COC) / Analytical Request Form

COC Number: 20-1041698



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Canada Toll Free: 1 800 668 9878

Page of

|                                                                                    |                                                                                                 |                                                                                                                                                                                                                                    |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------|
| <b>Report To</b><br>Contact and company name below will appear on the final report |                                                                                                 | <b>Reports / Recipients</b>                                                                                                                                                                                                        |                                                                                                               | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       | <b>AFFIX ALS BARCODE LABEL HERE</b><br>(ALS use only) |
| Company:                                                                           | Vancouver School Board                                                                          | Select Report Format:                                                                                                                                                                                                              | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply<br><input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum<br><input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum<br><input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum<br><input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum<br><input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |       |                                                       |
| Contact:                                                                           | Stephen Thomas                                                                                  | Merge QC/QCI Reports with COA                                                                                                                                                                                                      | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |
| Phone:                                                                             | 604-713-5637                                                                                    | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked<br>Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |
| Company address below will appear on the final report                              |                                                                                                 | Email 1 or Fax: ssstomas@usb.bc.ca                                                                                                                                                                                                 |                                                                                                               | Date and Time Required for all E&P TATs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       | dd-mm-yy hh:mm am/pm                                  |
| Street:                                                                            | 1549 Clark Drive                                                                                | Email 2: carrell@usb.bc.ca                                                                                                                                                                                                         |                                                                                                               | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                       |
| City/Province:                                                                     | Vancouver B.C.                                                                                  | Email 3: jduong@usb.bc.ca                                                                                                                                                                                                          |                                                                                                               | <b>Analysis Request</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                       |
| Postal Code:                                                                       |                                                                                                 | Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                                                                                                             |                                                                                                               | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |                                                       |
| Invoice To:                                                                        | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO           | Email 1 or Fax:                                                                                                                                                                                                                    |                                                                                                               | NUMBER OF CONTAINERS<br>Lead                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |                                                       |
| Company:                                                                           | Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Email 2:                                                                                                                                                                                                                           |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |
| Contact:                                                                           |                                                                                                 | Project Information                                                                                                                                                                                                                |                                                                                                               | SAMPLES ON HOLD<br>EXTENDED STORAGE REQUIRED<br>SUSPECTED HAZARD (see notes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |                                                       |
| ALS Account # / Quote #:                                                           |                                                                                                 | Oil and Gas Required Fields (client use)                                                                                                                                                                                           |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |
| Job #:                                                                             |                                                                                                 | AFE/Cost Center:                                                                                                                                                                                                                   |                                                                                                               | Environmental Division<br>Vancouver<br>Work Order Reference<br><b>VA23A0955</b><br><br>Telephone: +1 604 253 4168                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |                                                       |
| PO / AFE:                                                                          |                                                                                                 | Major/Minor Code:                                                                                                                                                                                                                  |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |
| LSD:                                                                               |                                                                                                 | Requisitioner:                                                                                                                                                                                                                     |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |
| ALS Lab Work Order # (ALS use only): A0955                                         |                                                                                                 | ALS Contact: T. Tarannum                                                                                                                                                                                                           |                                                                                                               | Sampler: R. Lema                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                       |
| ALS Sample # (ALS use only)                                                        | Sample Identification and/or Coordinates (This description will appear on the report)           | Date (dd-mm-yy)                                                                                                                                                                                                                    | Time (hh:mm)                                                                                                  | Sample Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                       |
|                                                                                    | corr 200 RM 208 DF                                                                              | 16-Jan-23                                                                                                                                                                                                                          | 8:25                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |
|                                                                                    | corr 100 RM 101 DF                                                                              | 16-Jan-23                                                                                                                                                                                                                          | 8:30                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |
|                                                                                    | corr 100 RM 106 Bottle Filler                                                                   | 16-Jan-23                                                                                                                                                                                                                          | 8:32                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |
|                                                                                    | Boys change 010 SSDF                                                                            | 16-Jan-23                                                                                                                                                                                                                          | 8:35                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |
|                                                                                    | corr 011 RM 008 SSDF                                                                            | 16-Jan-23                                                                                                                                                                                                                          | 8:39                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |
|                                                                                    | Build 121 B corr 100 RM B11 BF                                                                  | 16-Jan-23                                                                                                                                                                                                                          | 8:48                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |
|                                                                                    | Build 121 B corr 200 RM B216 SSDF                                                               | 16-Jan-23                                                                                                                                                                                                                          | 8:51                                                                                                          | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |
| Drinking Water (DW) Samples <sup>1</sup> (client use)                              |                                                                                                 | Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)                                                                                                                                    |                                                                                                               | SAMPLE RECEIPT DETAILS (ALS use only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                       |
| Are samples taken from a Regulated DW System?                                      |                                                                                                 | No preservatives added                                                                                                                                                                                                             |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |                                                       |
| Are samples for human consumption/ use?                                            |                                                                                                 |                                                                                                                                                                                                                                    |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                       |
|                                                                                    |                                                                                                 |                                                                                                                                                                                                                                    |                                                                                                               | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                                                       |
|                                                                                    |                                                                                                 |                                                                                                                                                                                                                                    |                                                                                                               | INITIAL COOLER TEMPERATURES °C: 8 FINAL COOLER TEMPERATURES °C: 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |                                                       |
| SHIPMENT RELEASE (client use)                                                      |                                                                                                 | INITIAL SHIPMENT RECEPTION (ALS use only)                                                                                                                                                                                          |                                                                                                               | FINAL SHIPMENT RECEPTION (ALS use only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                       |
| Released by:                                                                       | Date:                                                                                           | Time:                                                                                                                                                                                                                              | Received by:                                                                                                  | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Time: | Received by: aw Date: Jan 16 Time: 1500               |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS 7026 PRINT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

## Results Summary VA23A0955

|               |                                        |
|---------------|----------------------------------------|
| Project       | Admiral Seymour Elementary             |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 16-Jan-2023 15:00                      |
| Issue Date    | 17-Jan-2023 21:16                      |
| Amendment     | 0                                      |

|                              |                        |       |                    |                    |                              |                      |                      |                                |                                  |
|------------------------------|------------------------|-------|--------------------|--------------------|------------------------------|----------------------|----------------------|--------------------------------|----------------------------------|
| Client Sample ID             |                        |       | Corr 200 Rm 208 DF | Corr 100 Rm 101 DF | Cor 100 Rm 106 Bottle Filler | Boys change 010 SSDF | Corr 011 Rm 008 SSDF | Build 121B Corr 100 Rm B111 BF | Build 121B Corr 200 Rm B216 SSDF |
| Date Sampled                 |                        |       | 16-Jan-2023        | 16-Jan-2023        | 16-Jan-2023                  | 16-Jan-2023          | 16-Jan-2023          | 16-Jan-2023                    | 16-Jan-2023                      |
| Time Sampled                 |                        |       | 08:25              | 08:30              | 08:32                        | 08:35                | 08:39                | 08:48                          | 08:51                            |
| ALS Sample ID                |                        |       | VA23A0955-001      | VA23A0955-002      | VA23A0955-003                | VA23A0955-004        | VA23A0955-005        | VA23A0955-006                  | VA23A0955-007                    |
| Analyte                      | Lowest Detection Limit | Units | Sub-Matrix: Water  | Sub-Matrix: Water  | Sub-Matrix: Water            | Sub-Matrix: Water    | Sub-Matrix: Water    | Sub-Matrix: Water              | Sub-Matrix: Water                |
| Total Metals (Matrix: Water) |                        |       |                    |                    |                              |                      |                      |                                |                                  |
| Lead, total                  | 0.000050               | mg/L  | 0.000387           | 0.000720           | 0.000348                     | 0.00515              | 0.000768             | 0.000910                       | 0.0702                           |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0958</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Shaughnessy Elementary                          | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041684                                      | Issue Date              | : 18-Jan-2023 09:06                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|         |                    |      |       |       |       |       |       |       |       |
|---------|--------------------|------|-------|-------|-------|-------|-------|-------|-------|
| Matrix: | Client sample ID   |      | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sampling date/time |      | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sub-Matrix         |      | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Analyte | CAS Number         | Unit | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
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|         |                    |      |       |       |       |       |       |       |       |
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## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0958</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Shaughnessy Elementary                          | Date Samples Received | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 18-Jan-2023 09:06                                                 |
| C-O-C number            | : 20-1041684                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 4                                               |                       |                                                                     |
| No. of samples analysed | : 4                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.



### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)              | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Cor 100 Rm 114 DF             | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 18-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Cor 110 Rm 112 Bottle Filler  | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 18-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 210 Rm 214 Bottle Filler | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 18-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls change room 114 DF      | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 18-Jan-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0958</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Shaughnessy Elementary                          | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041684                                      | Issue Date              | : 18-Jan-2023 09:07                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 804403) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0957-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.00105         | 0.00106          | 0.341%               | 20%              | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 804403) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 804403) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 804403) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0957-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0186 mg/L              | 0.02 mg/L | 92.8         | 70.0                | 130  |



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## Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 1041684

Canada Toll Free: 1-800-668-9878

Page of

| Report To                                                                                                            |                                                                                          | Reports / Recipients                                                                                  |                                                                                                               | Turnaround Time (TAT) Requested                                                                                                                                                                     |             | Analysis Request                                                                                                                  |        |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------|--------|
| Company:                                                                                                             | VANCOUVER SCHOOL BOARD                                                                   | Select Report Format:                                                                                 | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                                                                        |             | AFFIX ALS BARCODE LABEL HERE<br>(ALS use only)                                                                                    |        |
| Contact:                                                                                                             | STEPHEN THOMAS                                                                           | Merge QC/QCI Reports with COA                                                                         | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum                                                                                                             |             |                                                                                                                                   |        |
| Phone:                                                                                                               |                                                                                          | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked |                                                                                                               | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum                                                                                                             |             |                                                                                                                                   |        |
| Company address below will appear on the final report                                                                |                                                                                          | Select Distribution:                                                                                  | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum                                                                                                             |             |                                                                                                                                   |        |
| Street:                                                                                                              | 1549 clark drive                                                                         | Email 1 or Fax                                                                                        | STThomas@VSB.bc.ca                                                                                            | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum                                                                                                             |             |                                                                                                                                   |        |
| City/Province:                                                                                                       | Vancouver BC                                                                             | Email 2                                                                                               | LCarpell@VSB.bc.ca                                                                                            | <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests              |             |                                                                                                                                   |        |
| Postal Code:                                                                                                         |                                                                                          | Email 3                                                                                               | Jduong@VSB.bc.ca                                                                                              | Date and Time Required for all E&P TATs:                                                                                                                                                            |             | dd-mmm-yy hh:mm am/pm                                                                                                             |        |
| Invoice To                                                                                                           | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO    | Invoice Recipients                                                                                    |                                                                                                               | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                             |             |                                                                                                                                   |        |
| Company:                                                                                                             |                                                                                          | Select Invoice Distribution:                                                                          | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                     | Analysis Request                                                                                                                                                                                    |             |                                                                                                                                   |        |
| Contact:                                                                                                             |                                                                                          | Email 1 or Fax                                                                                        |                                                                                                               | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                          |             |                                                                                                                                   |        |
| Project Information                                                                                                  |                                                                                          | Oil and Gas Required Fields (client use)                                                              |                                                                                                               | NUMBER OF CONTAINERS                                                                                                                                                                                |             |                                                                                                                                   |        |
| ALS Account # / Quote #:                                                                                             |                                                                                          | AFE/Cost Center:                                                                                      | PO#                                                                                                           | LEAD                                                                                                                                                                                                |             |                                                                                                                                   |        |
| Job #:                                                                                                               | SHAUGHNESSY ELEMENTARY                                                                   | Major/Minor Code:                                                                                     | Routing Code:                                                                                                 |                                                                                                                                                                                                     |             |                                                                                                                                   |        |
| PO / AFE:                                                                                                            |                                                                                          | Requisitioner:                                                                                        |                                                                                                               |                                                                                                                                                                                                     |             |                                                                                                                                   |        |
| LSD:                                                                                                                 |                                                                                          | Location:                                                                                             |                                                                                                               |                                                                                                                                                                                                     |             |                                                                                                                                   |        |
| ALS Lab Work Order # (ALS use only): A0958                                                                           |                                                                                          | ALS Contact:                                                                                          | T. Taramum                                                                                                    | Sampler:                                                                                                                                                                                            | K. Messamie | <div>Environmental Division<br/>Vancouver<br/>Work Order Reference<br/><b>VA23A0958</b><br/><br/>Telephone: +1 604 253 4188</div> |        |
| ALS Sample # (ALS use only)                                                                                          | Sample Identification and/or Coordinates<br>(This description will appear on the report) |                                                                                                       | Date<br>(dd-mmm-yy)                                                                                           | Time<br>(h:mm)                                                                                                                                                                                      | Sample Type |                                                                                                                                   |        |
|                                                                                                                      | Corr 210 Rm 214 Bottle Filler                                                            |                                                                                                       | 16-Jan-23                                                                                                     | 7:10                                                                                                                                                                                                | water       |                                                                                                                                   |        |
|                                                                                                                      | Girls change room 114 DF                                                                 |                                                                                                       | 16-Jan-23                                                                                                     | 7:14                                                                                                                                                                                                | water       |                                                                                                                                   |        |
|                                                                                                                      | Corr 100 Rm 114 DF                                                                       |                                                                                                       | 16-Jan-23                                                                                                     | 7:18                                                                                                                                                                                                | water       |                                                                                                                                   |        |
|                                                                                                                      | Corr 110 Rm 112 Bottle Filler                                                            |                                                                                                       | 16-Jan-23                                                                                                     | 7:20                                                                                                                                                                                                | water       |                                                                                                                                   |        |
|                                                                                                                      |                                                                                          |                                                                                                       |                                                                                                               |                                                                                                                                                                                                     |             |                                                                                                                                   |        |
|                                                                                                                      |                                                                                          |                                                                                                       |                                                                                                               |                                                                                                                                                                                                     |             |                                                                                                                                   |        |
|                                                                                                                      |                                                                                          |                                                                                                       |                                                                                                               |                                                                                                                                                                                                     |             |                                                                                                                                   |        |
|                                                                                                                      |                                                                                          |                                                                                                       |                                                                                                               |                                                                                                                                                                                                     |             |                                                                                                                                   |        |
| Drinking Water (DW) Samples <sup>1</sup> (client use)                                                                |                                                                                          | Notes / Specify Limits for result evaluation by selecting from drop-down below<br>(Excel COC only)    |                                                                                                               | SAMPLE RECEIPT DETAILS (ALS use only)                                                                                                                                                               |             |                                                                                                                                   |        |
| Are samples taken from a Regulated DW System?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                          | No preservatives added                                                                                |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED |             |                                                                                                                                   |        |
| Are samples for human consumption/ use?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO       |                                                                                          |                                                                                                       |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                             |             |                                                                                                                                   |        |
|                                                                                                                      |                                                                                          |                                                                                                       |                                                                                                               | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                       |             |                                                                                                                                   |        |
|                                                                                                                      |                                                                                          |                                                                                                       |                                                                                                               | INITIAL COOLER TEMPERATURES °C: 8 FINAL COOLER TEMPERATURES °C: 8                                                                                                                                   |             |                                                                                                                                   |        |
| SHIPMENT RELEASE (client use)                                                                                        |                                                                                          | INITIAL SHIPMENT RECEPTION (ALS use only)                                                             |                                                                                                               | FINAL SHIPMENT RECEPTION (ALS use only)                                                                                                                                                             |             |                                                                                                                                   |        |
| Released by:                                                                                                         | Date:                                                                                    | Time:                                                                                                 | Received by:                                                                                                  | Date:                                                                                                                                                                                               | Time:       | Received by:                                                                                                                      | Date:  |
|                                                                                                                      |                                                                                          |                                                                                                       |                                                                                                               |                                                                                                                                                                                                     |             | CW                                                                                                                                | Jan 16 |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



# Results Summary VA23A0958

|               |                                        |
|---------------|----------------------------------------|
| Project       | Shaughnessy Elementary                 |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 16-Jan-2023 15:00                      |
| Issue Date    | 18-Jan-2023 09:06                      |
| Amendment     | 0                                      |

|                              |                           |       |                                  |                             |                      |                                 |
|------------------------------|---------------------------|-------|----------------------------------|-----------------------------|----------------------|---------------------------------|
| Client Sample ID             |                           |       | Corr 210 Rm 214<br>Bottle Filler | Girls change room 114<br>DF | Cor 100 Rm 114 DF    | Cor 110 Rm 112 Bottle<br>Filler |
| Date Sampled                 |                           |       | 16-Jan-2023                      | 16-Jan-2023                 | 16-Jan-2023          | 16-Jan-2023                     |
| Time Sampled                 |                           |       | 07:10                            | 07:14                       | 07:18                | 07:20                           |
| ALS Sample ID                |                           |       | VA23A0958-001                    | VA23A0958-002               | VA23A0958-003        | VA23A0958-004                   |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water        | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water            |
| Total Metals (Matrix: Water) |                           |       |                                  |                             |                      |                                 |
| Lead, total                  | 0.000050                  | mg/L  | 0.000149                         | 0.00507                     | 0.000208             | 0.000126                        |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2930</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : South Hill Education Centre                     | Date Samples Received   | : 08-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 09-Feb-2023                                                       |
| C-O-C number            | : 20-1041881                                      | Issue Date              | : 09-Feb-2023 21:02                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

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Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2930</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : South Hill Education Centre                     | Date Samples Received | : 08-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Issue Date            | : 09-Feb-2023 21:02                                                 |
| C-O-C number            | : 20-1041881                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 3                                               |                       |                                                                     |
| No. of samples analysed | : 3                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)                           | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|----------------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                            |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                            |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS                          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Building 144A(Gym) Corr.100 Rm.107 S.S.D.F | E420   | 08-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr.200 Rm.B204 Bottle Filler             | E420   | 08-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                          |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr.300 Rm.B300A D.F.                     | E420   | 08-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 1 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 829071   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 829071   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 829071   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 829071   | 1     | 20      | 5.0           | 5.0      | ✓          |





## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2930</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : South Hill Education Centre                     | Date Samples Received   | : 08-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 09-Feb-2023                                                       |
| C-O-C number            | : 20-1041881                                      | Issue Date              | : 09-Feb-2023 21:02                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 829071) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| KS2300388-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000500                          | mg/L | 0.000536        | 0.000578         | 0.000041             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 829071) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 829071) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

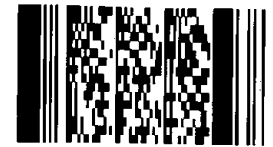
|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 829071) |                  |             |            |        |                          |           |              |                     |      |
| VA23A2864-001                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0189 mg/L              | 0.02 mg/L | 94.3         | 70.0                | 130  |

**Canada Toll Free: 1 800 668 9878**

Environmental Division  
Vancouver

**Work Order Reference**

VA23A2930



Telephone : +1 604 253 4188

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

## Results Summary VA23A2930

**Project** South Hill Education Centre  
**Report To** Stephen Thomas, Vancouver School Board  
**Date Received** 08-Feb-2023 14:55  
**Issue Date** 09-Feb-2023 21:02  
**Amendment** 0

|                                     |                           |       |                           |                                   |                                                  |
|-------------------------------------|---------------------------|-------|---------------------------|-----------------------------------|--------------------------------------------------|
| Client Sample ID                    |                           |       | Corr.300 Rm.B300A<br>D.F. | Corr.200 Rm.B204<br>Bottle Filler | Building 144A(Gym)<br>Corr.100 Rm.107<br>S.S.D.F |
| Date Sampled                        |                           |       | 08-Feb-2023               | 08-Feb-2023                       | 08-Feb-2023                                      |
| Time Sampled                        |                           |       | 07:42                     | 07:45                             | 07:52                                            |
| ALS Sample ID                       |                           |       | VA23A2930-001             | VA23A2930-002                     | VA23A2930-003                                    |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water      | Sub-Matrix:<br>Water              | Sub-Matrix:<br>Water                             |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                           |                                   |                                                  |
| Lead, total                         | 0.000050                  | mg/L  | 0.000873                  | 0.000104                          | 0.0391                                           |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2929</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : South Hill Swing Space                          | Date Samples Received   | : 08-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 09-Feb-2023                                                       |
| C-O-C number            | : 20-1041882                                      | Issue Date              | : 09-Feb-2023 21:01                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

---

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- Guideline Comparison

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| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

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Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.





Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

---

## QUALITY CONTROL INTERPRETIVE REPORT

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|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2929</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : South Hill Swing Space                          | Date Samples Received | : 08-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Issue Date            | : 09-Feb-2023 21:01                                                 |
| C-O-C number            | : 20-1041882                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 4                                               |                       |                                                                     |
| No. of samples analysed | : 4                                               |                       |                                                                     |

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### Key

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**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

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**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

---

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                           | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                         |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                         |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. Rm.102 Bubbler    | E420   | 08-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. Rm.103 Bubbler    | E420   | 08-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr.004 Rm.113 Bubbler | E420   | 08-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS       |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr.004 Rm.118 S.S.D.F | E420   | 08-Feb-2023   | 09-Feb-2023              | ----          | ----   |      | 09-Feb-2023   | 180 days      | 1 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 829071   | 1     | 20      | 5.0           | 5.0      | ✔          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 829071   | 1     | 20      | 5.0           | 5.0      | ✔          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 829071   | 1     | 20      | 5.0           | 5.0      | ✔          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 829071   | 1     | 20      | 5.0           | 5.0      | ✔          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2929</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : South Hill Swing Space                          | Date Samples Received   | : 08-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 09-Feb-2023                                                       |
| C-O-C number            | : 20-1041882                                      | Issue Date              | : 09-Feb-2023 21:01                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 829071) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| KS2300388-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000500                          | mg/L | 0.000536        | 0.000578         | 0.000041             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 829071) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |





Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 829071) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 829071) |                  |             |            |        |                          |           |              |                     |      |
| VA23A2864-001                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0189 mg/L              | 0.02 mg/L | 94.3         | 70.0                | 130  |



COC Number: 20 - 1041882

**Canada Toll Free: 1 800 668 9878**

Environmental Division  
Vancouver  
Work Order Reference  
**VA23A2929**



Telephone : +1 604 253 4188

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 2020 EBC

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report cover.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

# Results Summary VA23A2929

**Project** South Hill Swing Space  
**Report To** Stephen Thomas, Vancouver School Board  
**Date Received** 08-Feb-2023 14:55  
**Issue Date** 09-Feb-2023 21:02  
**Amendment** 0

|                                     |                        |       |                      |                      |                         |                         |
|-------------------------------------|------------------------|-------|----------------------|----------------------|-------------------------|-------------------------|
| Client Sample ID                    |                        |       | Corr. Rm.102 Bubbler | Corr. Rm.103 Bubbler | Corr.004 Rm.113 Bubbler | Corr.004 Rm.118 S.S.D.F |
| Date Sampled                        |                        |       | 08-Feb-2023          | 08-Feb-2023          | 08-Feb-2023             | 08-Feb-2023             |
| Time Sampled                        |                        |       | 07:55                | 07:58                | 08:05                   | 08:08                   |
| ALS Sample ID                       |                        |       | VA23A2929-001        | VA23A2929-002        | VA23A2929-003           | VA23A2929-004           |
| Analyte                             | Lowest Detection Limit | Units | Sub-Matrix: Water    | Sub-Matrix: Water    | Sub-Matrix: Water       | Sub-Matrix: Water       |
| <b>Total Metals (Matrix: Water)</b> |                        |       |                      |                      |                         |                         |
| Lead, total                         | 0.000050               | mg/L  | 0.000100             | <0.000050            | 0.000205                | 0.000070                |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0952</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Southlands Elementary                           | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041701                                      | Issue Date              | : 17-Jan-2023 21:16                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

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## QUALITY CONTROL INTERPRETIVE REPORT

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|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0952</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Southlands Elementary                           | Date Samples Received | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 17-Jan-2023 21:16                                                 |
| C-O-C number            | : 20-1041701                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 3                                               |                       |                                                                     |
| No. of samples analysed | : 3                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

---

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

---

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.





## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)                 | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                  |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                  |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 112 Rm. 113 D.F.           | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 200 Rm. 200c Bottle Filler | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Entry 223 S.S.D.F.               | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0952</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Southlands Elementary                           | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041701                                      | Issue Date              | : 17-Jan-2023 21:16                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|----------------------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID                 | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 804402) |                                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0952-001                 | Corr. 200 Rm. 200c Bottle Filler | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000154        | 0.000155         | 0.000002             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 804402) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 804402) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                    |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|--------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                    |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID   | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 804402) |                    |             |            |        |                          |           |              |                     |      |
| VA23A0952-002                | Entry 223 S.S.D.F. | Lead, total | 7439-92-1  | E420   | 0.0190 mg/L              | 0.02 mg/L | 94.9         | 70.0                | 130  |

## Chain of Custody (COC) / Analytical Request Form

COC Number: 20-1041701



www.alsglobal.com

Canada Toll-Free: 1-800-668-9878

Page of

| Report To                                                                                                            |                                                                                                 | Reports / Recipients                                                                                  |                                                                                                               | Turnaround Time (TAT) Requested                                                                                                                                                                     |             | Analysis Request                               |       |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------|-------|
| Company:                                                                                                             | Vancouver School Board                                                                          | Select Report Format:                                                                                 | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                                                                        |             | AFFIX ALS BARCODE LABEL HERE<br>(ALS use only) |       |
| Contact:                                                                                                             | Stephen Thomas                                                                                  | Merge QC/QCI Reports with COA                                                                         | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum                                                                                                             |             |                                                |       |
| Phone:                                                                                                               | 604 713-5637                                                                                    | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked |                                                                                                               | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum                                                                                                             |             |                                                |       |
| Company address below will appear on the final report                                                                |                                                                                                 | Select Distribution:                                                                                  | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum                                                                                                             |             |                                                |       |
| Street:                                                                                                              | 1549 Clark Drive                                                                                | Email 1 or Fax:                                                                                       | gstthomas@usb.bc.ca                                                                                           | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum                                                                                                             |             |                                                |       |
| City/Province:                                                                                                       | Vancouver B.C.                                                                                  | Email 2:                                                                                              | ccarrell@usb.bc.ca                                                                                            | <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests              |             |                                                |       |
| Postal Code:                                                                                                         |                                                                                                 | Email 3:                                                                                              | jduong@usb.bc.ca                                                                                              | Date and Time Required for all E&P TATs:                                                                                                                                                            |             | dd-mm-yy hh:mm am/pm                           |       |
| Invoice To                                                                                                           | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO           | Invoice Recipients                                                                                    |                                                                                                               | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                             |             |                                                |       |
|                                                                                                                      | Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Select Invoice Distribution:                                                                          | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                     | Analysis Request                                                                                                                                                                                    |             |                                                |       |
| Company:                                                                                                             |                                                                                                 | Email 1 or Fax:                                                                                       |                                                                                                               | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FIP) below                                                                                                                          |             |                                                |       |
| Contact:                                                                                                             |                                                                                                 | Email 2:                                                                                              |                                                                                                               |                                                                                                                                                                                                     |             |                                                |       |
| Project Information                                                                                                  |                                                                                                 | Oil and Gas Required Fields (client use)                                                              |                                                                                                               |                                                                                                                                                                                                     |             |                                                |       |
| ALS Account # / Quote #:                                                                                             |                                                                                                 | AFE/Cost Center:                                                                                      | PO#                                                                                                           |                                                                                                                                                                                                     |             |                                                |       |
| Job #:                                                                                                               | Southlands Elementary                                                                           | Major/Minor Code:                                                                                     | Routing Code:                                                                                                 |                                                                                                                                                                                                     |             |                                                |       |
| PO / AFE:                                                                                                            |                                                                                                 | Requisitioner:                                                                                        |                                                                                                               |                                                                                                                                                                                                     |             |                                                |       |
| LSD:                                                                                                                 |                                                                                                 | Location:                                                                                             |                                                                                                               |                                                                                                                                                                                                     |             |                                                |       |
| ALS Lab Work Order # (ALS use only):                                                                                 | A0952                                                                                           | ALS Contact:                                                                                          | T. Taramum                                                                                                    | Sampler: R. Lenay                                                                                                                                                                                   |             |                                                |       |
| ALS Sample # (ALS use only)                                                                                          | Sample Identification and/or Coordinates<br>(This description will appear on the report)        |                                                                                                       | Date<br>(dd-mm-yy)                                                                                            | Time<br>(hh:mm)                                                                                                                                                                                     | Sample Type |                                                |       |
|                                                                                                                      | Corr. 200 Rm. 200c Bottle Filler                                                                |                                                                                                       | 16-01-23                                                                                                      | 11:58                                                                                                                                                                                               | water       |                                                |       |
|                                                                                                                      | Entry 223 S.S. D.F.                                                                             |                                                                                                       | 16-01-23                                                                                                      | 12:04                                                                                                                                                                                               | water       |                                                |       |
|                                                                                                                      | Corr. 112 Rm. 113 D.F.                                                                          |                                                                                                       | 16-01-23                                                                                                      | 12:13                                                                                                                                                                                               | water       |                                                |       |
| Drinking Water (DW) Samples <sup>1</sup> (client use)                                                                |                                                                                                 | Notes / Specify Limits for result evaluation by selecting from drop-down below<br>(Excel COC only)    |                                                                                                               | SAMPLE RECEIPT DETAILS (ALS use only)                                                                                                                                                               |             |                                                |       |
| Are samples taken from a Regulated DW System?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                                 | No preservatives added                                                                                |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED |             |                                                |       |
| Are samples for human consumption/ use?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO       |                                                                                                 |                                                                                                       |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                             |             |                                                |       |
|                                                                                                                      |                                                                                                 |                                                                                                       |                                                                                                               | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                       |             |                                                |       |
|                                                                                                                      |                                                                                                 |                                                                                                       |                                                                                                               | INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C:                                                                                                                                       |             |                                                |       |
| SHIPMENT RELEASE (client use)                                                                                        |                                                                                                 | INITIAL SHIPMENT RECEPTION (ALS use only)                                                             |                                                                                                               | FINAL SHIPMENT RECEPTION (ALS use only)                                                                                                                                                             |             |                                                |       |
| Released by:                                                                                                         | Date:                                                                                           | Time:                                                                                                 | Received by:                                                                                                  | Date:                                                                                                                                                                                               | Time:       | Received by:                                   | Date: |
|                                                                                                                      |                                                                                                 |                                                                                                       |                                                                                                               |                                                                                                                                                                                                     |             |                                                |       |

Environmental Division  
Vancouver  
Work Order Reference  
VA23A0952

Telephone: +1 604 253 4188

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

AUG 2020 FRONT

# Results Summary VA23A0952

**Project** Southlands Elementary  
**Report To** Stephen Thomas, Vancouver School Board  
**Date Received** 16-Jan-2023 15:00  
**Issue Date** 17-Jan-2023 21:16  
**Amendment** 0

|                                     |                           |       |                                     |                      |                           |
|-------------------------------------|---------------------------|-------|-------------------------------------|----------------------|---------------------------|
| Client Sample ID                    |                           |       | Corr. 200 Rm. 200c<br>Bottle Filler | Entry 223 S.S.D.F.   | Corr. 112 Rm. 113<br>D.F. |
| Date Sampled                        |                           |       | 16-Jan-2023                         | 16-Jan-2023          | 16-Jan-2023               |
| Time Sampled                        |                           |       | 11:58                               | 12:04                | 12:13                     |
| ALS Sample ID                       |                           |       | VA23A0952-001                       | VA23A0952-002        | VA23A0952-003             |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water                | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water      |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                                     |                      |                           |
| Lead, total                         | 0.000050                  | mg/L  | 0.000154                            | 0.000384             | 0.00309                   |



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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0959</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Tecumseh Annex Elementary                       | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041682                                      | Issue Date              | : 17-Jan-2023 21:17                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

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### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|         |                    |      |       |       |       |       |       |       |       |
|---------|--------------------|------|-------|-------|-------|-------|-------|-------|-------|
| Matrix: | Client sample ID   |      | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sampling date/time |      | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sub-Matrix         |      | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Analyte | CAS Number         | Unit | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
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## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0959</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Tecumseh Annex Elementary                       | Date Samples Received | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 17-Jan-2023 21:17                                                 |
| C-O-C number            | : 20-1041682                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 3                                               |                       |                                                                     |
| No. of samples analysed | : 3                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)              | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 Rm 105 SSDF          | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 116 Rm 112 Bottle Filler | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 200 Rm 204 SSDF          | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |



## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0959</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Tecumseh Annex Elementary                       | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041682                                      | Issue Date              | : 17-Jan-2023 21:17                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 804402) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0952-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000154        | 0.000155         | 0.000002             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 804402) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 804402) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 804402) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0952-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0190 mg/L              | 0.02 mg/L | 94.9         | 70.0                | 130  |

**SAMPLES ON HOLD**

**EXTENDED STORAGE REQUIRED**

**SUSPECTED HAZARD (see notes)**

# Results Summary VA23A0959

|               |                                        |
|---------------|----------------------------------------|
| Project       | Tecumseh Annex Elementary              |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 16-Jan-2023 15:00                      |
| Issue Date    | 17-Jan-2023 21:17                      |
| Amendment     | 0                                      |

|                              |                           |       |                         |                                  |                         |
|------------------------------|---------------------------|-------|-------------------------|----------------------------------|-------------------------|
| Client Sample ID             |                           |       | Corr 200 Rm 204<br>SSDF | Corr 116 Rm 112<br>Bottle Filler | Corr 100 Rm 105<br>SSDF |
| Date Sampled                 |                           |       | 16-Jan-2023             | 16-Jan-2023                      | 16-Jan-2023             |
| Time Sampled                 |                           |       | 10:51                   | 10:53                            | 10:56                   |
| ALS Sample ID                |                           |       | VA23A0959-001           | VA23A0959-002                    | VA23A0959-003           |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water    | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water    |
| Total Metals (Matrix: Water) |                           |       |                         |                                  |                         |
| Lead, total                  | 0.000050                  | mg/L  | 0.00123                 | 0.000462                         | 0.00182                 |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0962</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Tecumseh Elementary                             | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041680                                      | Issue Date              | : 18-Jan-2023 09:07                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|



## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0962</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Tecumseh Elementary                             | Date Samples Received | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 18-Jan-2023 09:07                                                 |
| C-O-C number            | : 20-1041680                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 2                                               |                       |                                                                     |
| No. of samples analysed | : 2                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 104 D.F.          | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 18-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 122 Rm. 116 Bottle Filler | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 18-Jan-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804403   | 1     | 19      | 5.2           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0962</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Tecumseh Elementary                             | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041680                                      | Issue Date              | : 18-Jan-2023 09:07                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 804403) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0957-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.00105         | 0.00106          | 0.341%               | 20%              | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 804403) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 804403) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

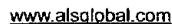
Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 804403) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0957-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0186 mg/L              | 0.02 mg/L | 92.8         | 70.0                | 130  |





COC Number: 20-1041680

**Canada Toll Free: 1-800-668-9878**

Page 0

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

MAY 2020 FROM

White Paper Co. 604 951-3900

## Results Summary VA23A0962

|                      |                                        |
|----------------------|----------------------------------------|
| <b>Project</b>       | Tecumseh Elementary                    |
| <b>Report To</b>     | Stephen Thomas, Vancouver School Board |
| <b>Date Received</b> | 16-Jan-2023 15:00                      |
| <b>Issue Date</b>    | 18-Jan-2023 09:07                      |
| <b>Amendment</b>     | 0                                      |

|                                     |                           |       |                           |                                    |
|-------------------------------------|---------------------------|-------|---------------------------|------------------------------------|
| Client Sample ID                    |                           |       | Corr. 100 Rm. 104<br>D.F. | Corr. 122 Rm. 116<br>Bottle Filler |
| Date Sampled                        |                           |       | 16-Jan-2023               | 16-Jan-2023                        |
| Time Sampled                        |                           |       | 10:25                     | 10:30                              |
| ALS Sample ID                       |                           |       | VA23A0962-001             | VA23A0962-002                      |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water      | Sub-Matrix:<br>Water               |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                           |                                    |
| Lead, total                         | 0.000050                  | mg/L  | 0.000160                  | 0.000066                           |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1175</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : TEMPLETON SECONDARY                             | Date Samples Received   | : 18-Jan-2023 15:20                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 20-Jan-2023                                                       |
| C-O-C number            | : 20-1041759                                      | Issue Date              | : 23-Jan-2023 10:27                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 12                                              |                         |                                                                     |
| No. of samples analysed | : 12                                              |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1175</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : TEMPLETON SECONDARY                             | Date Samples Received | : 18-Jan-2023 15:20                                                 |
| PO                      | : ----                                            | Issue Date            | : 23-Jan-2023 10:28                                                 |
| C-O-C number            | : 20-1041759                                      |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 12                                              |                       |                                                                     |
| No. of samples analysed | : 12                                              |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                 | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 159 RM 171 Bottle Filler | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 173 RM 174 DF            | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 173 RM 178 Bottle Filler | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 230 RM 223 DF            | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 237 RM 236 DF            | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 318 RM 317 DF            | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls change RM 163 DF        | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✓    |





Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)  | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                   |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                   |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM 120 Bub        | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✔    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM 125 Bub        | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✔    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM 127 Bub        | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✔    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM 128 DF         | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✔    |
| Total Metals : Total metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM 129 Bub        | E420   | 18-Jan-2023   | 20-Jan-2023              | ----          | ----   |      | 20-Jan-2023   | 180 days      | 2 days | ✔    |

**Legend & Qualifier Definitions**

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 807628   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 807628   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 807628   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 807628   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1175</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : TEMPLETON SECONDARY                             | Date Samples Received   | : 18-Jan-2023 15:20                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 20-Jan-2023                                                       |
| C-O-C number            | : 20-1041759                                      | Issue Date              | : 23-Jan-2023 10:29                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 12                                              |                         |                                                                     |
| No. of samples analysed | : 12                                              |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 807628) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A1171-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000100                          | mg/L | <0.000100       | <0.000100        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 807628) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 807628) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 807628) |                  |             |            |        |                          |           |              |                     |      |
| VA23A1171-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0355 mg/L              | 0.04 mg/L | 88.8         | 70.0                | 130  |



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## Chain of Custody (COC) / Analytical Request Form

COC Number: 20-1041759

Canada Toll Free: 1 800 668 9878

Page of

|                                                                                                                   |                                                                                       |                                                                                                                                     |              |                                                                                                                                                                                                     |       |                                                       |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------|
| <b>Report To</b><br>Contact and company name below will appear on the final report                                |                                                                                       | <b>Reports / Recipients</b>                                                                                                         |              | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                              |       | <b>AFFIX ALS BARCODE LABEL HERE</b><br>(ALS use only) |
| Company: VANCOUVER SCHOOL BOARD                                                                                   |                                                                                       | Select Report Format: <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) |              | <input checked="" type="checkbox"/> Routine (R) if received by 3pm M-F - no surcharges apply                                                                                                        |       |                                                       |
| Contact: STEPHEN THOMAS                                                                                           |                                                                                       | Merge QC/QCI Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                 |              | <input type="checkbox"/> 4 day (P4) if received by 3pm M-F - 20% rush surcharge minimum                                                                                                             |       |                                                       |
| Phone: 604-713-5637                                                                                               |                                                                                       | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked                               |              | <input type="checkbox"/> 3 day (P3) if received by 3pm M-F - 25% rush surcharge minimum                                                                                                             |       |                                                       |
| Company address below will appear on the final report                                                             |                                                                                       | Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX           |              | <input type="checkbox"/> 2 day (P2) if received by 3pm M-F - 50% rush surcharge minimum                                                                                                             |       |                                                       |
| Street: 1549 Clark drive                                                                                          |                                                                                       | Email 1 or Fax: SStomas@vsb.bc.ca                                                                                                   |              | <input type="checkbox"/> 1 day (E) if received by 3pm M-F - 100% rush surcharge minimum                                                                                                             |       |                                                       |
| City/Province: VANCOUVER BC                                                                                       |                                                                                       | Email 2: CCarrell@vsb.bc.ca                                                                                                         |              | <input type="checkbox"/> Same day (E2) if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests              |       |                                                       |
| Postal Code:                                                                                                      |                                                                                       | Email 3: Jduong@vsb.bc.ca                                                                                                           |              | Date and Time Required for all E&P TATs: dd-mm-yy hh:mm am/pm                                                                                                                                       |       |                                                       |
| Invoice To: Same as Report To <input type="checkbox"/> YES <input type="checkbox"/> NO                            |                                                                                       | <b>Invoice Recipients</b>                                                                                                           |              | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                             |       |                                                       |
| Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO                              |                                                                                       | Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX              |              | <b>Analysis Request</b>                                                                                                                                                                             |       |                                                       |
| Company:                                                                                                          |                                                                                       | Email 1 or Fax:                                                                                                                     |              | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                          |       |                                                       |
| Contact:                                                                                                          |                                                                                       | Email 2:                                                                                                                            |              | NUMBER OF CONTAINERS                                                                                                                                                                                |       |                                                       |
| <b>Project Information</b>                                                                                        |                                                                                       | <b>Oil and Gas Required Fields (client use)</b>                                                                                     |              | LEAD                                                                                                                                                                                                |       |                                                       |
| ALS Account # / Quote #                                                                                           |                                                                                       | AFE/Cost Center:                                                                                                                    |              | PO#                                                                                                                                                                                                 |       |                                                       |
| Job #: TEMPLETON SECONDARY                                                                                        |                                                                                       | Major/Minor Code:                                                                                                                   |              | Routing Code:                                                                                                                                                                                       |       |                                                       |
| PO / AFE:                                                                                                         |                                                                                       | Requisitioner:                                                                                                                      |              |                                                                                                                                                                                                     |       |                                                       |
| LSD:                                                                                                              |                                                                                       | Location:                                                                                                                           |              |                                                                                                                                                                                                     |       |                                                       |
| ALS Lab Work Order # (ALS use only): A1175                                                                        |                                                                                       | ALS Contact: T. Taranum                                                                                                             |              | Sampler: K. MESSAMIN                                                                                                                                                                                |       |                                                       |
| ALS Sample # (ALS use only)                                                                                       | Sample Identification and/or Coordinates (This description will appear on the report) | Date (dd-mm-yy)                                                                                                                     | Time (hh:mm) | Sample Type                                                                                                                                                                                         |       |                                                       |
|                                                                                                                   | Girls change RM 163 DF                                                                | 18-JAN-23                                                                                                                           | 7:14         | Water                                                                                                                                                                                               |       |                                                       |
|                                                                                                                   | corr 159 RM 171 Bottle Filler                                                         | 18-JAN-23                                                                                                                           | 7:16         | Water                                                                                                                                                                                               |       |                                                       |
|                                                                                                                   | corr 173 RM 174 DF                                                                    | 18-JAN-23                                                                                                                           | 7:26         | Water                                                                                                                                                                                               |       |                                                       |
|                                                                                                                   | corr 173 RM 178 Bottle Filler                                                         | 18-JAN-23                                                                                                                           | 7:30         | Water                                                                                                                                                                                               |       |                                                       |
|                                                                                                                   | RM 120 Bub                                                                            | 18-JAN-23                                                                                                                           | 7:34         | Water                                                                                                                                                                                               |       |                                                       |
|                                                                                                                   | RM 129 Bub                                                                            | 18-JAN-23                                                                                                                           | 7:37         | Water                                                                                                                                                                                               |       |                                                       |
|                                                                                                                   | RM 128 DF                                                                             | 18-JAN-23                                                                                                                           | 7:40         | Water                                                                                                                                                                                               |       |                                                       |
|                                                                                                                   | RM 127 Bub                                                                            | 18-JAN-23                                                                                                                           | 7:43         | Water                                                                                                                                                                                               |       |                                                       |
|                                                                                                                   | RM 125 Bub                                                                            | 18-JAN-23                                                                                                                           | 7:44         | Water                                                                                                                                                                                               |       |                                                       |
|                                                                                                                   | corr 230 RM 223 DF                                                                    | 18-JAN-23                                                                                                                           | 7:49         | Water                                                                                                                                                                                               |       |                                                       |
|                                                                                                                   | corr 237 RM 236 DF                                                                    | 18-JAN-23                                                                                                                           | 7:52         | Water                                                                                                                                                                                               |       |                                                       |
|                                                                                                                   | corr 318 RM 317 DF                                                                    | 18-JAN-23                                                                                                                           | 7:55         | Water                                                                                                                                                                                               |       |                                                       |
| <b>Drinking Water (DW) Samples (client use)</b>                                                                   |                                                                                       | <b>Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)</b>                              |              | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                        |       |                                                       |
| Are samples taken from a Regulated DW System? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                       | No preservatives added                                                                                                              |              | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED |       |                                                       |
| Are samples for human consumption/ use? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO       |                                                                                       |                                                                                                                                     |              | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                             |       |                                                       |
|                                                                                                                   |                                                                                       |                                                                                                                                     |              | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                       |       |                                                       |
|                                                                                                                   |                                                                                       |                                                                                                                                     |              | INITIAL COOLER TEMPERATURES °C: 5 FINAL COOLER TEMPERATURES °C: 5                                                                                                                                   |       |                                                       |
| <b>SHIPMENT RELEASE (client use)</b>                                                                              |                                                                                       | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                    |              | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                      |       |                                                       |
| Released by:                                                                                                      | Date:                                                                                 | Time:                                                                                                                               | Received by: | Date:                                                                                                                                                                                               | Time: | Received by: CW Date: Jan 18 Time: 1520               |

Environmental Division  
Vancouver  
Work Order Reference  
VA23A1175

Telephone: +1 604 253 4188

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Results Summary VA23A1175

|                              |                                        |       |                        |                               |                    |                               |                   |                   |                   |                   |                   |                    |                    |                    |
|------------------------------|----------------------------------------|-------|------------------------|-------------------------------|--------------------|-------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|
| Project                      | TEMPLETON SECONDARY                    |       |                        |                               |                    |                               |                   |                   |                   |                   |                   |                    |                    |                    |
| Report To                    | Stephen Thomas, Vancouver School Board |       |                        |                               |                    |                               |                   |                   |                   |                   |                   |                    |                    |                    |
| Date Received                | 18-Jan-2023 15:20                      |       |                        |                               |                    |                               |                   |                   |                   |                   |                   |                    |                    |                    |
| Issue Date                   | 23-Jan-2023 10:28                      |       |                        |                               |                    |                               |                   |                   |                   |                   |                   |                    |                    |                    |
| Amendment                    | 0                                      |       |                        |                               |                    |                               |                   |                   |                   |                   |                   |                    |                    |                    |
|                              |                                        |       | Girls change RM 163 DF | Corr 159 RM 171 Bottle Filler | Corr 173 RM 174 DF | Corr 173 RM 178 Bottle Filler | RM 120 Bub        | RM 129 Bub        | RM 128 DF         | RM 127 Bub        | RM 125 Bub        | Corr 230 RM 223 DF | Corr 237 RM 236 DF | Corr 318 RM 317 DF |
| Client Sample ID             |                                        |       | 18-Jan-2023            | 18-Jan-2023                   | 18-Jan-2023        | 18-Jan-2023                   | 18-Jan-2023       | 18-Jan-2023       | 18-Jan-2023       | 18-Jan-2023       | 18-Jan-2023       | 18-Jan-2023        | 18-Jan-2023        | 18-Jan-2023        |
| Date Sampled                 |                                        |       | 07:14                  | 07:16                         | 07:26              | 07:30                         | 07:34             | 07:37             | 07:40             | 07:43             | 07:44             | 07:49              | 07:52              | 07:55              |
| Time Sampled                 |                                        |       | VA23A1175-001          | VA23A1175-002                 | VA23A1175-003      | VA23A1175-004                 | VA23A1175-005     | VA23A1175-006     | VA23A1175-007     | VA23A1175-008     | VA23A1175-009     | VA23A1175-010      | VA23A1175-011      | VA23A1175-012      |
| ALS Sample ID                |                                        |       | Sub-Matrix: Water      | Sub-Matrix: Water             | Sub-Matrix: Water  | Sub-Matrix: Water             | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water  | Sub-Matrix: Water  | Sub-Matrix: Water  |
| Analyte                      | Lowest Detection Limit                 | Units |                        |                               |                    |                               |                   |                   |                   |                   |                   |                    |                    |                    |
| Total Metals (Matrix: Water) |                                        |       |                        |                               |                    |                               |                   |                   |                   |                   |                   |                    |                    |                    |
| Lead, total                  | 0.000050                               | mg/L  | 0.00116                | <0.000050                     | 0.00446            | 0.000122                      | 0.00486           | 0.00315           | 0.0574            | 0.00329           | 0.00144           | 0.0106             | 0.00386            | 0.00515            |



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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2413</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Tenyson Elementary                         | Date Samples Received   | : 01-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 03-Feb-2023                                                       |
| C-O-C number            | : 20-980485                                       | Issue Date              | : 06-Feb-2023 08:26                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2413</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Lord Tenyson Elementary                         | Date Samples Received | : 01-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Issue Date            | : 06-Feb-2023 08:26                                                 |
| C-O-C number            | : 20-980485                                       |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 4                                               |                       |                                                                     |
| No. of samples analysed | : 4                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                     | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                   |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                   |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS                 |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr . 101 Rm . 129 Bottle Filler | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                 |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr . 101 Rm . 130 D .F. (Elkay) | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                 |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr . 201 Rm . 221 Bottle Filler | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                 |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr . 201 Rm . 222 D .F. (Elkay) | E420   | 01-Feb-2023   | 03-Feb-2023              | ----          | ----   |      | 05-Feb-2023   | 180 days      | 4 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 822203   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 822203   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 822203   | 1     | 19      | 5.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 822203   | 1     | 19      | 5.2           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |



## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2413</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Lord Tenyson Elementary                         | Date Samples Received   | : 01-Feb-2023 14:55                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 03-Feb-2023                                                       |
| C-O-C number            | : 20-980485                                       | Issue Date              | : 06-Feb-2023 08:26                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 822203) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A2250-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000080        | 0.000083         | 0.000003             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 822203) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 822203) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 100          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 822203) |                  |             |            |        |                          |           |              |                     |      |
| VA23A2250-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0178 mg/L              | 0.02 mg/L | 89.0         | 70.0                | 130  |



COC Number: 20 - 980485

**Canada Toll Free: 1 800 668 9878**

Page of

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

AUG 2020 FROM

White Paper Co. 604 951-3900

# Results Summary VA23A2413

|               |                                        |
|---------------|----------------------------------------|
| Project       | Lord Tenyson Elementary                |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 01-Feb-2023 14:55                      |
| Issue Date    | 06-Feb-2023 08:26                      |
| Amendment     | 0                                      |

|                              |                           |       |                                      |                                      |                                      |                                      |
|------------------------------|---------------------------|-------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Client Sample ID             |                           |       | Corr . 101 Rm . 129<br>Bottle Filler | Corr . 101 Rm . 130 D<br>.F. (Elkay) | Corr . 201 Rm . 222 D<br>.F. (Elkay) | Corr . 201 Rm . 221<br>Bottle Filler |
| Date Sampled                 |                           |       | 01-Feb-2023                          | 01-Feb-2023                          | 01-Feb-2023                          | 01-Feb-2023                          |
| Time Sampled                 |                           |       | 07:55                                | 07:57                                | 08:02                                | 08:05                                |
| ALS Sample ID                |                           |       | VA23A2413-001                        | VA23A2413-002                        | VA23A2413-003                        | VA23A2413-004                        |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water                 | Sub-Matrix:<br>Water                 | Sub-Matrix:<br>Water                 | Sub-Matrix:<br>Water                 |
| Total Metals (Matrix: Water) |                           |       |                                      |                                      |                                      |                                      |
| Lead, total                  | 0.000050                  | mg/L  | 0.000055                             | <0.000050                            | <0.000050                            | <0.000050                            |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1535</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Tillicum Annex                                  | Date Samples Received   | : 23-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 25-Jan-2023                                                       |
| C-O-C number            | : ----                                            | Issue Date              | : 25-Jan-2023 20:10                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      | -    |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|



## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1535</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Tillicum Annex                                  | Date Samples Received | : 23-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 25-Jan-2023 20:10                                                 |
| C-O-C number            | : ----                                            |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 4                                               |                       |                                                                     |
| No. of samples analysed | : 4                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)              | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation<br>Date      | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 RM 105 DF            | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180<br>days   | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 RM 117 DF            | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180<br>days   | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 RM 121 Bottle Filler | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180<br>days   | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM 117 Bub                    | E420   | 23-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180<br>days   | 2 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 812521   | 1     | 16      | 6.2           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1535</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Tillicum Annex                                  | Date Samples Received   | : 23-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 25-Jan-2023                                                       |
| C-O-C number            | : ----                                            | Issue Date              | : 25-Jan-2023 20:10                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 812521) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| KS2300221-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000500                          | mg/L | <0.000500       | <0.000500        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 812521) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 812521) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 812521) |                  |             |            |        |                          |           |              |                     |      |
| KS2300224-001                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0192 mg/L              | 0.02 mg/L | 96.0         | 70.0                | 130  |





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# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 1041767

Page of

|                                                                                                                      |                                                                                       |                                                                                                                                     |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |                                                       |                              |
|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------|------------------------------|
| <b>Report To</b><br>Contact and company name below will appear on the final report                                   |                                                                                       | <b>Reports / Recipients</b>                                                                                                         |              | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       | <b>AFFIX ALS BARCODE LABEL HERE</b><br>(ALS use only) |                              |
| Company: VANCOUVER SCHOOL BOARD                                                                                      |                                                                                       | Select Report Format: <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) |              | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |                                                       |                              |
| Contact: STEPHEN THOMAS                                                                                              |                                                                                       | Merge QC/QCI Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                 |              | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                       |                              |
| Phone: 604-713-5637                                                                                                  |                                                                                       | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked                               |              | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                       |                              |
| Company address below will appear on the final report                                                                |                                                                                       | Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX           |              | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                       |                              |
| Street: 1549 Clark drive                                                                                             |                                                                                       | Email 1 or Fax: STHOMAS@VSB.BC.CA                                                                                                   |              | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                       |                              |
| City/Province: Vancouver BC                                                                                          |                                                                                       | Email 2: CLARVELL@VSB.BC.CA                                                                                                         |              | <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests                                                                                                                                                                                                                                                                                                                                           |       |                                                       |                              |
| Postal Code:                                                                                                         |                                                                                       | Email 3: JHUANG@VSB.BC.CA                                                                                                           |              | Date and Time Required for all E&P TATs: dd-mm-yy hh:mm am/pm                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |                              |
| Invoice To: Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                    |                                                                                       | Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX              |              | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                       |                              |
| Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO                                 |                                                                                       | Invoice Recipients                                                                                                                  |              | <b>Analysis Request</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                       |                              |
| Company:                                                                                                             |                                                                                       | Email 1 or Fax:                                                                                                                     |              | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |                                                       |                              |
| Contact:                                                                                                             |                                                                                       | Email 2:                                                                                                                            |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |                                                       |                              |
| <b>Project Information</b>                                                                                           |                                                                                       | <b>Oil and Gas Required Fields (client use)</b>                                                                                     |              | <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">NUMBER OF CONTAINERS</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">             Environmental Division<br/>             Vancouver<br/>             Work Order Reference<br/> <b>VA23A1535</b><br/> <br/>             Telephone: +1 604 253 4188           </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SAMPLES ON HOLD</div> </div> |       |                                                       |                              |
| ALS Account # / Quote #:                                                                                             |                                                                                       | AFE/Cost Center: PO#                                                                                                                |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |                                                       |                              |
| Job #: Tillicum Annex                                                                                                |                                                                                       | Major/Minor Code: Routing Code:                                                                                                     |              | <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">LEAD</div> <div></div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">EXTENDED STORAGE REQUIRED</div> </div>                                                                                                                                                                                                                                                                 |       |                                                       |                              |
| PO / AFE:                                                                                                            |                                                                                       | Requisitioner:                                                                                                                      |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |                                                       |                              |
| LSD:                                                                                                                 |                                                                                       | Location:                                                                                                                           |              | <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SUSPECTED HAZARD (see notes)</div> <div></div> </div>                                                                                                                                                                                                                                                                                                                                            |       |                                                       |                              |
| ALS Lab Work Order # (ALS use only): 1535                                                                            |                                                                                       | ALS Contact: T. Taramm Sampler: K. Messamore                                                                                        |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |                                                       |                              |
| ALS Sample # (ALS use only)                                                                                          | Sample Identification and/or Coordinates (This description will appear on the report) | Date (dd-mm-yy)                                                                                                                     | Time (hh:mm) | Sample Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                                                       |                              |
|                                                                                                                      | Corr 100 RM 105 DF                                                                    | 23-JAN-23                                                                                                                           | 7:35         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                       |                              |
|                                                                                                                      | Corr 100 RM 117 DF                                                                    | 23-JAN-23                                                                                                                           | 7:37         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                       |                              |
|                                                                                                                      | Corr 100 RM 121 Bottle Filler                                                         | 23-JAN-23                                                                                                                           | 7:39         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                       |                              |
|                                                                                                                      | RM 117 Bub                                                                            | 23-JAN-23                                                                                                                           | 7:41         | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                       |                              |
| <b>Drinking Water (DW) Samples (client use)</b>                                                                      |                                                                                       | <b>Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)</b>                              |              | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |                                                       |                              |
| Are samples taken from a Regulated DW System?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                       | No preservatives added                                                                                                              |              | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                                                                              |       |                                                       |                              |
| Are samples for human consumption/ use?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO       |                                                                                       |                                                                                                                                     |              | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                       |                              |
|                                                                                                                      |                                                                                       |                                                                                                                                     |              | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                    |       |                                                       |                              |
|                                                                                                                      |                                                                                       |                                                                                                                                     |              | INITIAL COOLER TEMPERATURES °C: 7 FINAL COOLER TEMPERATURES °C: 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |                                                       |                              |
| <b>SHIPMENT RELEASE (client use)</b>                                                                                 |                                                                                       | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                    |              | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                       |                              |
| Released by:                                                                                                         | Date:                                                                                 | Time:                                                                                                                               | Received by: | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Time: | Received by: JH                                       | Date: JAN 23/2023 Time: 1500 |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (RDW) System, please submit using an Authorized DW-COC form.

ALS 2020 FORM

# Results Summary VA23A1535

|               |                                        |
|---------------|----------------------------------------|
| Project       | Tillicum Annex                         |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 23-Jan-2023 15:00                      |
| Issue Date    | 25-Jan-2023 20:11                      |
| Amendment     | 0                                      |

|                              |                           |       |                      |                      |                                  |                      |
|------------------------------|---------------------------|-------|----------------------|----------------------|----------------------------------|----------------------|
| Client Sample ID             |                           |       | Corr 100 RM 105 DF   | Corr 100 RM 117 DF   | Corr 100 RM 121<br>Bottle Filler | RM 117 Bub           |
| Date Sampled                 |                           |       | 23-Jan-2023          | 23-Jan-2023          | 23-Jan-2023                      | 23-Jan-2023          |
| Time Sampled                 |                           |       | 07:35                | 07:37                | 07:39                            | 07:41                |
| ALS Sample ID                |                           |       | VA23A1535-001        | VA23A1535-002        | VA23A1535-003                    | VA23A1535-004        |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water |
| Total Metals (Matrix: Water) |                           |       |                      |                      |                                  |                      |
| Lead, total                  | 0.000050                  | mg/L  | 0.000303             | 0.000120             | 0.000134                         | <0.000050            |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2718</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Total Education                                 | Date Samples Received   | : 06-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 08-Feb-2023                                                       |
| C-O-C number            | : 20-1041756                                      | Issue Date              | : 09-Feb-2023 08:46                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2718</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Total Education                                 | Date Samples Received | : 06-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Issue Date            | : 09-Feb-2023 08:46                                                 |
| C-O-C number            | : 20-1041756                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 2                                               |                       |                                                                     |
| No. of samples analysed | : 2                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 129 Rm. 103 Bottle Filler | E420   | 06-Feb-2023   | 08-Feb-2023              | ----          | ----   |      | 08-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 129 Rm. 119 S.S.D.F.      | E420   | 06-Feb-2023   | 08-Feb-2023              | ----          | ----   |      | 08-Feb-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).





## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 826244   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 826244   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 826244   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 826244   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2718</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Total Education                                 | Date Samples Received   | : 06-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 08-Feb-2023                                                       |
| C-O-C number            | : 20-1041756                                      | Issue Date              | : 09-Feb-2023 08:46                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 826244) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A2711-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.108           | 0.105            | 3.20%                | 20%              | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 826244) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 826244) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 99.5         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 826244) |                  |             |            |        |                          |           |              |                     |      |
| VA23A2711-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | ND mg/L                  | 0.02 mg/L | ND           | 70.0                | 130  |

AUG 2020 FR

# Results Summary VA23A2718

|               |                                        |
|---------------|----------------------------------------|
| Project       | Total Education                        |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 06-Feb-2023 14:45                      |
| Issue Date    | 09-Feb-2023 08:47                      |
| Amendment     | 0                                      |

|                              |                           |       |                               |                                    |
|------------------------------|---------------------------|-------|-------------------------------|------------------------------------|
| Client Sample ID             |                           |       | Corr. 129 Rm. 119<br>S.S.D.F. | Corr. 129 Rm. 103<br>Bottle Filler |
| Date Sampled                 |                           |       | 06-Feb-2023                   | 06-Feb-2023                        |
| Time Sampled                 |                           |       | 07:18                         | 07:23                              |
| ALS Sample ID                |                           |       | VA23A2718-001                 | VA23A2718-002                      |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water          | Sub-Matrix:<br>Water               |
| Total Metals (Matrix: Water) |                           |       |                               |                                    |
| Lead, total                  | 0.000050                  | mg/L  | 0.00958                       | 0.000078                           |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0950</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Pierre Elliott Trudeau                          | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041700                                      | Issue Date              | : 17-Jan-2023 21:11                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |





## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

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When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0950</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Pierre Elliott Trudeau                          | Date Samples Received | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 17-Jan-2023 21:11                                                 |
| C-O-C number            | : 20-1041700                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 4                                               |                       |                                                                     |
| No. of samples analysed | : 4                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)              | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 101 Rm 151 DF            | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 103 Rm 109 SSDF          | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 103 Rm 122 DF            | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 103 Rm 127 Bottle Filler | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804401   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804401   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804401   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804401   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0950</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Pierre Elliott Trudeau                          | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041700                                      | Issue Date              | : 17-Jan-2023 21:11                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 4                                               |                         |                                                                     |
| No. of samples analysed | : 4                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |





General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 804401) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0930-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000287        | 0.000286         | 0.000001             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 804401) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 804401) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 97.6         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 804401) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0930-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0188 mg/L              | 0.02 mg/L | 93.9         | 70.0                | 130  |

**Environmental Division  
Vancouver  
Work Order Reference  
VA23A0950**

# Results Summary VA23A0950

|               |                                        |
|---------------|----------------------------------------|
| Project       | Pierre Elliott Trudeau                 |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 16-Jan-2023 15:00                      |
| Issue Date    | 17-Jan-2023 21:11                      |
| Amendment     | 0                                      |

|                              |                           |       |                                  |                      |                         |                      |
|------------------------------|---------------------------|-------|----------------------------------|----------------------|-------------------------|----------------------|
| Client Sample ID             |                           |       | Corr 103 Rm 127<br>Bottle Filler | Corr 103 Rm 122 DF   | Corr 103 Rm 109<br>SSDF | Corr 101 Rm 151 DF   |
| Date Sampled                 |                           |       | 16-Jan-2023                      | 16-Jan-2023          | 16-Jan-2023             | 16-Jan-2023          |
| Time Sampled                 |                           |       | 12:51                            | 12:53                | 12:56                   | 12:58                |
| ALS Sample ID                |                           |       | VA23A0950-001                    | VA23A0950-002        | VA23A0950-003           | VA23A0950-004        |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water    | Sub-Matrix:<br>Water |
| Total Metals (Matrix: Water) |                           |       |                                  |                      |                         |                      |
| Lead, total                  | 0.000050                  | mg/L  | 0.000119                         | 0.00152              | 0.000070                | 0.000233             |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1928</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Sir Charles Tupper Secondary                    | Date Samples Received   | : 26-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 27-Jan-2023                                                       |
| C-O-C number            | : 20-1041754; 1041753;                            | Issue Date              | : 30-Jan-2023 09:45                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 17                                              |                         |                                                                     |
| No. of samples analysed | : 17                                              |                         |                                                                     |

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- Analytical Results
- Guideline Comparison

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---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

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Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|         |                    |      |       |       |       |       |       |       |       |
|---------|--------------------|------|-------|-------|-------|-------|-------|-------|-------|
| Matrix: | Client sample ID   |      | ----  | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sampling date/time |      | ----  | ----- | ----- | ----- | ----- | ----- | ----- |
|         | Sub-Matrix         |      | ----  | ----- | ----- | ----- | ----- | ----- | ----- |
| Analyte | CAS Number         | Unit | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
|         |                    |      |       |       |       |       |       |       |       |
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|         |                    |      |       |       |       |       |       |       |       |
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|         |                    |      |       |       |       |       |       |       |       |

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1928</b>                                | Page                  | : 1 of 7                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Sir Charles Tupper Secondary                    | Date Samples Received | : 26-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 30-Jan-2023 09:45                                                 |
| C-O-C number            | : 20-1041754; 1041753;                            |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 17                                              |                       |                                                                     |
| No. of samples analysed | : 17                                              |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.



### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                 | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Auto RM 115 Bubbler           | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys Change Rm 112 DF         | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Cafeteria 219 Bottle Filler   | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 Rm 104 DF            | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 110 rm 108 Bottle Filler | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 125 Rm 103C DF           | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 125 Rm 109B SSDF         | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)              | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 212 Rm 204 DF            | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 212 Rm 211 DF            | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 316 Rm 305 DF            | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 324 Rm 307 DF            | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 324 Rm 329 SSDF          | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 446 Rm 407 DF            | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 446 Rm 413 Bottle Filler | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls Change Rm 119 DF        | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm 114 Bubbler                | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |

Page : 5 of 7  
 Work Order : VA23A1928  
 Client : Vancouver School Board  
 Project : Sir Charles Tupper Secondary



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                            | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|----------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| Container / Client Sample ID(s)                          |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                          |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
|                                                          |        |               |                          |               |        |      |               |               |        |      |
| Total Metals : Total metals in Water by CRC ICPMS        |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Woodwork Ram 100 Bubbler | E420   | 26-Jan-2023   | 27-Jan-2023              | ----          | ----   |      | 30-Jan-2023   | 180 days      | 3 days | ✓    |

**Legend & Qualifier Definitions**

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 815706   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 815706   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 815706   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 815706   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1928</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Sir Charles Tupper Secondary                    | Date Samples Received   | : 26-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 27-Jan-2023                                                       |
| C-O-C number            | : 20-1041754; 1041753;                            | Issue Date              | : 30-Jan-2023 09:45                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 17                                              |                         |                                                                     |
| No. of samples analysed | : 17                                              |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 815706) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A1924-003                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000052        | 0.000064         | 0.000012             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 815706) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |





Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 815706) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 815706) |                  |             |            |        |                          |           |              |                     |      |
| VA23A1924-004                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0185 mg/L              | 0.02 mg/L | 92.4         | 70.0                | 130  |



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## Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20-1041754

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|                                                                                                                      |                                                                                          |                                                                                                       |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------|----------------------|------|--|--|--|--|--|-----------------|---------------------------|------------------------------|--|--|--|--|-----------------|---------------------------|------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>Report To</b><br>Contact and company name below will appear on the final report                                   |                                                                                          | <b>Reports / Recipients</b>                                                                           |                                                                                                               | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              | <b>AFFIX ALS BARCODE LABEL HERE</b><br>(ALS use only) |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company:                                                                                                             | VANCOUVER SCHOOL BOARD                                                                   | Select Report Format:                                                                                 | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Contact:                                                                                                             | STEPHEN THOMAS                                                                           | Merge QC/QCI Reports with COA                                                                         | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Phone:                                                                                                               | 604-713-5637                                                                             | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked |                                                                                                               | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company address below will appear on the final report                                                                |                                                                                          | Select Distribution:                                                                                  | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Street:                                                                                                              | 1549 clock drive                                                                         | Email 1 or Fax                                                                                        | SSTHOMAS@VSB.BC.CA                                                                                            | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| City/Province:                                                                                                       | Vancouver BC                                                                             | Email 2                                                                                               | CCARRELL@VSB.BC.CA                                                                                            | <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests                                                                                                                                                                                                                                                                                                                                                                                       |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Postal Code:                                                                                                         |                                                                                          | Email 3                                                                                               | JDUONG@VSB.BC.CA                                                                                              | Date and Time Required for all E&P TATs: dd-mm-yy hh:mm am/pm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Invoice To                                                                                                           | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO    | <b>Invoice Recipients</b>                                                                             |                                                                                                               | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO     | Select Invoice Distribution:                                                                          | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                     | <b>Analysis Request</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company:                                                                                                             |                                                                                          | Email 1 or Fax                                                                                        |                                                                                                               | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Contact:                                                                                                             |                                                                                          | Email 2                                                                                               |                                                                                                               | <table border="1"> <tr> <td rowspan="10">NUMBER OF CONTAINERS</td> <td rowspan="10">LEAD</td> <td colspan="12"></td> <td rowspan="10">SAMPLES ON HOLD</td> <td rowspan="10">EXTENDED STORAGE REQUIRED</td> <td rowspan="10">SUSPECTED HAZARD (see notes)</td> </tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> <tr><td colspan="12"></td></tr> </table> |              |                                                       | NUMBER OF CONTAINERS | LEAD |  |  |  |  |  |                 |                           |                              |  |  |  |  | SAMPLES ON HOLD | EXTENDED STORAGE REQUIRED | SUSPECTED HAZARD (see notes) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NUMBER OF CONTAINERS                                                                                                 | LEAD                                                                                     |                                                                                                       |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                                                       |                      |      |  |  |  |  |  | SAMPLES ON HOLD | EXTENDED STORAGE REQUIRED | SUSPECTED HAZARD (see notes) |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| <b>Project Information</b>                                                                                           |                                                                                          | <b>Oil and Gas Required Fields (client use)</b>                                                       |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALS Account # / Quote #                                                                                              |                                                                                          | AFE/Cost Center:                                                                                      | PO#                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Job #:                                                                                                               | SIR CHARLES TUPPER SECONDARY                                                             | Major/Minor Code:                                                                                     | Routing Code:                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PO / AFE:                                                                                                            |                                                                                          | Requisitioner:                                                                                        |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LSD:                                                                                                                 |                                                                                          | Location:                                                                                             |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALS Lab Work Order # (ALS use only):                                                                                 |                                                                                          | ALS Contact:                                                                                          | T. TARANUM                                                                                                    | Sampler:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | K. MESSAMORE |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALS Sample # (ALS use only)                                                                                          | Sample Identification and/or Coordinates<br>(This description will appear on the report) | Date<br>(dd-mm-yy)                                                                                    | Time<br>(hh:mm)                                                                                               | Sample Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Girls change RM 119 DF                                                                   | 26-JAN-23                                                                                             | 7:05                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Boys change RM 112 DF                                                                    | 26-JAN-23                                                                                             | 7:09                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 110 RM 108 BDTLE Filter                                                             | 26-JAN-23                                                                                             | 7:11                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 125 RM 104 B SSDF                                                                   | 26-JAN-23                                                                                             | 7:24                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 125 RM 103 C. DF                                                                    | 26-JAN-23                                                                                             | 7:28                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | RM 114 Bubber                                                                            | 26-JAN-23                                                                                             | 7:30                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 100 RM 104 DF                                                                       | 26-JAN-23                                                                                             | 7:38                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 212 RM 204 DF                                                                       | 26-JAN-23                                                                                             | 7:40                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 212 RM 211 DF                                                                       | 26-JAN-23                                                                                             | 7:43                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 316 RM 305 DF                                                                       | 26-JAN-23                                                                                             | 7:49                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 324 RM 329 SSDF                                                                     | 26-JAN-23                                                                                             | 7:52                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      | Corr 324 RM 307 DF                                                                       | 26-JAN-23                                                                                             | 7:54                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Drinking Water (DW) Samples (client use)                                                                             |                                                                                          | Notes / Specify Limits for result evaluation by selecting from drop-down below<br>(Excel COC only)    |                                                                                                               | SAMPLE RECEIPT DETAILS (ALS use only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Are samples taken from a Regulated DW System?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                          | No preservatives added                                                                                |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                                                                                                                          |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Are samples for human consumption/ use?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO       |                                                                                          |                                                                                                       |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      |                                                                                          |                                                                                                       |                                                                                                               | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SHIPMENT RELEASE (client use)                                                                                        |                                                                                          | INITIAL SHIPMENT RECEPTION (ALS use only)                                                             |                                                                                                               | FINAL SHIPMENT RECEPTION (ALS use only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                                                       |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Released by:                                                                                                         | Date:                                                                                    | Time:                                                                                                 | Received by:                                                                                                  | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Time:        | Received by:                                          |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                      |                                                                                          |                                                                                                       |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              | CW Jan 26 1500                                        |                      |      |  |  |  |  |  |                 |                           |                              |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



COC Number: 20 - 1041753

**Canada Toll Free: 1 800 668 9878**

Page 2 of 2

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Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white-report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Results Summary VA23A1928

|               |                                        |
|---------------|----------------------------------------|
| Project       | Sir Charles Tupper Secondary           |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 26-Jan-2023 15:00                      |
| Issue Date    | 30-Jan-2023 09:45                      |
| Amendment     | 0                                      |

|                              |                        |       |                        |                       |                               |                       |                     |                   |                    |                    |                    |                    |                      |                    |                    |                               |                             |                      |                           |
|------------------------------|------------------------|-------|------------------------|-----------------------|-------------------------------|-----------------------|---------------------|-------------------|--------------------|--------------------|--------------------|--------------------|----------------------|--------------------|--------------------|-------------------------------|-----------------------------|----------------------|---------------------------|
| Client Sample ID             |                        |       | Girls Change Rm 119 DF | Boys Change Rm 112 DF | Corr 110 rm 108 Bottle Filler | Corr 125 Rm 109B SSDF | Corr 125 Rm 103C DF | Rm 114 Bubblers   | Corr 100 Rm 104 DF | Corr 212 Rm 204 DF | Corr 212 Rm 211 DF | Corr 316 Rm 305 DF | Corr 324 Rm 329 SSDF | Corr 324 Rm 307 DF | Corr 446 Rm 407 DF | Corr 446 Rm 413 Bottle Filler | Cafeteria 219 Bottle Filler | Auto RM 115 Bubblers | Woodwork Ram 100 Bubblers |
| Date Sampled                 |                        |       | 26-Jan-2023 07:05      | 26-Jan-2023 07:08     | 26-Jan-2023 07:11             | 26-Jan-2023 07:24     | 26-Jan-2023 07:28   | 26-Jan-2023 07:30 | 26-Jan-2023 07:38  | 26-Jan-2023 07:40  | 26-Jan-2023 07:43  | 26-Jan-2023 07:49  | 26-Jan-2023 07:52    | 26-Jan-2023 07:54  | 26-Jan-2023 07:55  | 26-Jan-2023 07:58             | 26-Jan-2023 08:07           | 26-Jan-2023 08:15    | 26-Jan-2023 08:19         |
| Time Sampled                 |                        |       |                        |                       |                               |                       |                     |                   |                    |                    |                    |                    |                      |                    |                    |                               |                             |                      |                           |
| ALS Sample ID                |                        |       | VA23A1928-001          | VA23A1928-002         | VA23A1928-003                 | VA23A1928-004         | VA23A1928-005       | VA23A1928-006     | VA23A1928-007      | VA23A1928-008      | VA23A1928-009      | VA23A1928-010      | VA23A1928-011        | VA23A1928-012      | VA23A1928-013      | VA23A1928-014                 | VA23A1928-015               | VA23A1928-016        | VA23A1928-017             |
| Analyte                      | Lowest Detection Limit | Units | Sub-Matrix: Water      | Sub-Matrix: Water     | Sub-Matrix: Water             | Sub-Matrix: Water     | Sub-Matrix: Water   | Sub-Matrix: Water | Sub-Matrix: Water  | Sub-Matrix: Water  | Sub-Matrix: Water  | Sub-Matrix: Water  | Sub-Matrix: Water    | Sub-Matrix: Water  | Sub-Matrix: Water  | Sub-Matrix: Water             | Sub-Matrix: Water           | Sub-Matrix: Water    | Sub-Matrix: Water         |
| Total Metals (Matrix: Water) |                        |       |                        |                       |                               |                       |                     |                   |                    |                    |                    |                    |                      |                    |                    |                               |                             |                      |                           |
| Lead, total                  | 0.000050               | mg/L  | 0.00106                | 0.000886              | 0.000834                      | 0.000512              | 0.000329            | 0.00281           | 0.000573           | 0.00156            | 0.00128            | 0.000573           | 0.00125              | 0.00238            | 0.00234            | 0.000720                      | 0.00125                     | 0.00351              | 0.00168                   |



CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : VA23A0961                                       | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Tyee Elementary                                 | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041681                                      | Issue Date              | : 17-Jan-2023 21:17                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0961</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Tyee Elementary                                 | Date Samples Received | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 17-Jan-2023 21:16                                                 |
| C-O-C number            | : 20-1041681                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 2                                               |                       |                                                                     |
| No. of samples analysed | : 2                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.



### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100 Rm. 107 S.S.D.F.      | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 214 Rm. 203 Bottle Filler | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0961</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Tyee Elementary                                 | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041681                                      | Issue Date              | : 17-Jan-2023 21:16                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



## General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.  
 CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.  
 DQO = Data Quality Objective.  
 LOR = Limit of Reporting (detection limit).  
 RPD = Relative Percent Difference  
 # = Indicates a QC result that did not meet the ALS DQO.

## Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

## Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

|                                      |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|--------------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID                 | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| <b>Total Metals (QC Lot: 804402)</b> |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0952-001                        | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000154        | 0.000155         | 0.000002             | Diff <2x LOR     | ----      |

## Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

| Analyte                              | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
|--------------------------------------|------------|--------|---------|------|-----------|-----------|
| <b>Total Metals (QC Lot: 804402)</b> |            |        |         |      |           |           |
| Lead, total                          | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 804402) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 804402) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0952-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0190 mg/L              | 0.02 mg/L | 94.9         | 70.0                | 130  |



COC Number: 20 - 1041681

**Canada Toll Free: 1 800 668 9878**

Page of

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REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 2020 FROM

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

White Paper Co. 604 951-3900



## Results Summary VA23A0961

|                      |                                        |
|----------------------|----------------------------------------|
| <b>Project</b>       | Tyee Elementary                        |
| <b>Report To</b>     | Stephen Thomas, Vancouver School Board |
| <b>Date Received</b> | 16-Jan-2023 15:00                      |
| <b>Issue Date</b>    | 17-Jan-2023 21:17                      |
| <b>Amendment</b>     | 0                                      |

|                                     |                           |       |                               |                                    |
|-------------------------------------|---------------------------|-------|-------------------------------|------------------------------------|
| Client Sample ID                    |                           |       | Corr. 100 Rm. 107<br>S.S.D.F. | Corr. 214 Rm. 203<br>Bottle Filler |
| Date Sampled                        |                           |       | 16-Jan-2023                   | 16-Jan-2023                        |
| Time Sampled                        |                           |       | 10:34                         | 10:38                              |
| ALS Sample ID                       |                           |       | VA23A0961-001                 | VA23A0961-002                      |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water          | Sub-Matrix:<br>Water               |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                               |                                    |
| Lead, total                         | 0.000050                  | mg/L  | 0.000103                      | 0.000231                           |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2142</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : University Hill Elementary                      | Date Samples Received   | : 30-Jan-2023 15:50                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 31-Jan-2023                                                       |
| C-O-C number            | : 20-980487                                       | Issue Date              | : 01-Feb-2023 08:46                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2142</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : University Hill Elementary                      | Date Samples Received | : 30-Jan-2023 15:50                                                 |
| PO                      | : ----                                            | Issue Date            | : 01-Feb-2023 08:46                                                 |
| C-O-C number            | : 20-980487                                       |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 3                                               |                       |                                                                     |
| No. of samples analysed | : 3                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

#### **Outliers : Analysis Holding Time Compliance (Breaches)**

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)              | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr.100 Rm.109 S.S.D.F       | E420   | 30-Jan-2023   | 31-Jan-2023              | ----          | ----   |      | 01-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr.100 Rm.113 S.S.D.F.      | E420   | 30-Jan-2023   | 31-Jan-2023              | ----          | ----   |      | 01-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr.162 Rm.159 Bottle Filler | E420   | 30-Jan-2023   | 31-Jan-2023              | ----          | ----   |      | 01-Feb-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 818559   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 818559   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 818559   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 818559   | 0     | 15      | 0.0           | 5.0      | ✗          |





## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2142</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : University Hill Elementary                      | Date Samples Received   | : 30-Jan-2023 15:50                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 31-Jan-2023                                                       |
| C-O-C number            | : 20-980487                                       | Issue Date              | : 01-Feb-2023 08:46                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 3                                               |                         |                                                                     |
| No. of samples analysed | : 3                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 818559) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| YL2300067-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.00100                           | mg/L | 0.00391         | 0.00378          | 0.000130             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 818559) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 818559) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 101          | 80.0                | 120  | ----      |



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## Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 980487

Page

Environmental Division  
Vancouver

Work Order Reference

VA23A2142



Telephone : +1 604 253 4188

|                                                                                    |                                                                                       |                                                                                                       |                                                                                                               |                                                                                                                                                      |  |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Report To</b><br>Contact and company name below will appear on the final report |                                                                                       | <b>Reports / Recipients</b>                                                                           |                                                                                                               | <b>Turnaround Time (TAT) Requested</b>                                                                                                               |  |
| Company:                                                                           | Vancouver School Board                                                                | Select Report Format:                                                                                 | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                         |  |
| Contact:                                                                           | Stephen Thomas                                                                        | Merge QC/QCI Reports with COA                                                                         | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge min                                                                  |  |
| Phone:                                                                             | 604 713 5637                                                                          | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked |                                                                                                               | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge min                                                                  |  |
| Company address below will appear on the final report                              |                                                                                       | Select Distribution:                                                                                  | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge min                                                                  |  |
| Street:                                                                            | 1549 Clark Drive                                                                      | Email 1 or Fax                                                                                        | stthomas@vsb.bc.ca                                                                                            | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge min                                                                  |  |
| City/Province:                                                                     | Vancouver B.C.                                                                        | Email 2                                                                                               | carrell@vsb.bc.ca                                                                                             | <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. may apply to rush requests on weekends, statutory holidays and |  |
| Postal Code:                                                                       |                                                                                       | Email 3                                                                                               | jdvoong@vsb.bc.ca                                                                                             | Date and Time Required for all E&P TATs:                                                                                                             |  |
| Invoice To                                                                         | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | Invoice Recipients                                                                                    |                                                                                                               | For all tests with rush TATs requested, please                                                                                                       |  |
|                                                                                    | Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO  | Select Invoice Distribution:                                                                          | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                     |                                                                                                                                                      |  |
| Company:                                                                           |                                                                                       | Email 1 or Fax                                                                                        |                                                                                                               |                                                                                                                                                      |  |
| Contact:                                                                           |                                                                                       | Email 2                                                                                               |                                                                                                               |                                                                                                                                                      |  |

| <b>Project Information</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                          |  |  | <b>Oil and Gas Required Fields (client use)</b> |                 |                   |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--|--|-------------------------------------------------|-----------------|-------------------|--|----------------------|----------------------------------------------------------------------------|--|-----------------|---------------------------|------------------------------|--|--|--|--|--|-----------------|---------------------------|------------------------------|--|--|--|--|--|--|--|--|--|--|--|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| ALS Account # / Quote #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                          |  |  | AFE/Cost Center:                                |                 |                   |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Job #: University Hill Elementary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                          |  |  | Major/Minor Code:                               |                 |                   |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PO / AFE:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                          |  |  | Requisitioner:                                  |                 |                   |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LSD:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                          |  |  | Location:                                       |                 |                   |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALS Lab Work Order # (ALS use only): 2142                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                          |  |  | ALS Contact: T. Taramum                         |                 | Sampler: R. Lemay |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALS Sample #<br>(ALS use only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sample Identification and/or Coordinates<br>(This description will appear on the report) |  |  | Date<br>(dd-mm-yy)                              | Time<br>(hh:mm) | Sample Type       |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Corr. 162 Km. 159 Bottle Filter                                                          |  |  | 30-01-23                                        | 8:02am          | water             |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Corr. 100 Km. 113 S.S.D.F.                                                               |  |  | 30-01-23                                        | 8:05am          | water             |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Corr. 100 Km. 109 S.S.D.F.                                                               |  |  | 30-01-23                                        | 8:08am          | water             |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <table border="1"> <tr> <th rowspan="2">NUMBER OF CONTAINERS</th> <th colspan="10">Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below</th> <th rowspan="2">SAMPLES ON HOLD</th> <th rowspan="2">EXTENDED STORAGE REQUIRED</th> <th rowspan="2">SUSPECTED HAZARD (see notes)</th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Lead</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td> </tr> </table> |                                                                                          |  |  |                                                 |                 |                   |  | NUMBER OF CONTAINERS | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below |  |                 |                           |                              |  |  |  |  |  | SAMPLES ON HOLD | EXTENDED STORAGE REQUIRED | SUSPECTED HAZARD (see notes) |  |  |  |  |  |  |  |  |  |  |  | Lead |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NUMBER OF CONTAINERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below               |  |  |                                                 |                 |                   |  |                      |                                                                            |  | SAMPLES ON HOLD | EXTENDED STORAGE REQUIRED | SUSPECTED HAZARD (see notes) |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                          |  |  |                                                 |                 |                   |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lead                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                          |  |  |                                                 |                 |                   |  |                      |                                                                            |  |                 |                           |                              |  |  |  |  |  |                 |                           |                              |  |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|                                                                     |       |                                                                                                        |       |                                                                                                                                                                                                     |          |              |       |
|---------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------|-------|
| <b>Drinking Water (DW) Samples<sup>1</sup> (client use)</b>         |       | <b>Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)</b> |       | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                        |          |              |       |
| Are samples taken from a Regulated DW System?                       |       | No preservatives added                                                                                 |       | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED |          |              |       |
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |       |                                                                                                        |       | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                             |          |              |       |
| Are samples for human consumption/ use?                             |       |                                                                                                        |       | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                       |          |              |       |
| <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |       |                                                                                                        |       | INITIAL COOLER TEMPERATURES °C: 4 FINAL COOLER TEMPERATURES °C: 4                                                                                                                                   |          |              |       |
| <b>SHIPMENT RELEASE (client use)</b>                                |       | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                       |       | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                      |          |              |       |
| Released by:                                                        | Date: | Received by:                                                                                           | Date: | Received by:                                                                                                                                                                                        | Date:    | Received by: | Date: |
|                                                                     |       |                                                                                                        |       | JH                                                                                                                                                                                                  | 01/30/23 |              | 15:50 |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY

YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS 2020 PRINT

# Results Summary VA23A2142

|               |                                        |
|---------------|----------------------------------------|
| Project       | University Hill Elemantary             |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 30-Jan-2023 15:50                      |
| Issue Date    | 01-Feb-2023 08:46                      |
| Amendment     | 0                                      |

|                              |                           |       |                                  |                             |                            |
|------------------------------|---------------------------|-------|----------------------------------|-----------------------------|----------------------------|
| Client Sample ID             |                           |       | Corr.162 Rm.159<br>Bottle Filler | Corr.100 Rm.113<br>S.S.D.F. | Corr.100 Rm.109<br>S.S.D.F |
| Date Sampled                 |                           |       | 30-Jan-2023                      | 30-Jan-2023                 | 30-Jan-2023                |
| Time Sampled                 |                           |       | 08:02                            | 08:05                       | 08:08                      |
| ALS Sample ID                |                           |       | VA23A2142-001                    | VA23A2142-002               | VA23A2142-003              |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water        | Sub-Matrix:<br>Water       |
| Total Metals (Matrix: Water) |                           |       |                                  |                             |                            |
| Lead, total                  | 0.000050                  | mg/L  | 0.000057                         | 0.000086                    | <0.000050                  |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0954</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : William Van Horne Elementary                    | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041679                                      | Issue Date              | : 17-Jan-2023 21:11                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 6                                               |                         |                                                                     |
| No. of samples analysed | : 6                                               |                         |                                                                     |

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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| <i>Unit</i> | <i>Description</i>   |
|-------------|----------------------|
| mg/L        | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.





Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0954</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : William Van Horne Elementary                    | Date Samples Received | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 17-Jan-2023 21:11                                                 |
| C-O-C number            | : 20-1041679                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 6                                               |                       |                                                                     |
| No. of samples analysed | : 6                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                      | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|--------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                    |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                    |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 012 Rm 011 DF                 | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 113 Rm 197 BF (Bottle Filler) | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Play area 20 Rm 006 DF             | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Stair 099 Rm 001 SSDF              | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Stair 199 Rm 201 SSDF              | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Stair 299 Rm 202 SSDF              | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804401   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804401   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804401   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804401   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0954</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : William Van Horne Elementary                    | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041679                                      | Issue Date              | : 17-Jan-2023 21:11                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 6                                               |                         |                                                                     |
| No. of samples analysed | : 6                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 804401) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0930-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000287        | 0.000286         | 0.000001             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 804401) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |





Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

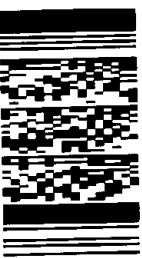
|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 804401) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 97.6         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 804401) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0930-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0188 mg/L              | 0.02 mg/L | 93.9         | 70.0                | 130  |



# Results Summary VA23A0954

**Project** William Van Horne Elementary  
**Report To** Stephen Thomas, Vancouver School Board  
**Date Received** 16-Jan-2023 15:00  
**Issue Date** 17-Jan-2023 21:12  
**Amendment** 0

|                              |                           |       | Play area 20 Rm 006<br>DF | Corr 012 Rm 011 DF   | Stair 099 Rm 001<br>SSDF | Stair 199 Rm 201<br>SSDF | Corr 113 Rm 197 BF<br>(Bottle Filler) | Stair 299 Rm 202<br>SSDF |
|------------------------------|---------------------------|-------|---------------------------|----------------------|--------------------------|--------------------------|---------------------------------------|--------------------------|
| Client Sample ID             |                           |       | 16-Jan-2023               | 16-Jan-2023          | 16-Jan-2023              | 16-Jan-2023              | 16-Jan-2023                           | 16-Jan-2023              |
| Date Sampled                 |                           |       | 11:36                     | 11:38                | 11:41                    | 11:44                    | 11:47                                 | 11:52                    |
| Time Sampled                 |                           |       | VA23A0954-001             | VA23A0954-002        | VA23A0954-003            | VA23A0954-004            | VA23A0954-005                         | VA23A0954-006            |
| ALS Sample ID                |                           |       | Sub-Matrix:<br>Water      | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water     | Sub-Matrix:<br>Water     | Sub-Matrix:<br>Water                  | Sub-Matrix:<br>Water     |
| Analyte                      | Lowest<br>Detection Limit | Units |                           |                      |                          |                          |                                       |                          |
| Total Metals (Matrix: Water) |                           |       |                           |                      |                          |                          |                                       |                          |
| Lead, total                  | 0.000050                  | mg/L  | 0.00320                   | 0.000717             | 0.000165                 | 0.000160                 | 0.000108                              | 0.000158                 |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1768</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Vancouver Technical Secondary                   | Date Samples Received   | : 25-Jan-2023 15:10                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 26-Jan-2023                                                       |
| C-O-C number            | : 20-1041683                                      | Issue Date              | : 30-Jan-2023 17:31                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 9                                               |                         |                                                                     |
| No. of samples analysed | : 9                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1768</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Vancouver Technical Secondary                   | Date Samples Received | : 25-Jan-2023 15:10                                                 |
| PO                      | : ----                                            | Issue Date            | : 30-Jan-2023 17:33                                                 |
| C-O-C number            | : 20-1041683                                      |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 9                                               |                       |                                                                     |
| No. of samples analysed | : 9                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.





## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)               | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Automotive Shop 602 Bubbler    | E420   | 24-Jan-2023   | 26-Jan-2023              | ----          | ----   |      | 27-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Cafeteria 803 Bottle Filler    | E420   | 24-Jan-2023   | 26-Jan-2023              | ----          | ----   |      | 27-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 258 Rm 258A Bottle Filler | E420   | 24-Jan-2023   | 26-Jan-2023              | ----          | ----   |      | 27-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 353 Rm 311 DF             | E420   | 24-Jan-2023   | 26-Jan-2023              | ----          | ----   |      | 27-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 353 RM 317 Bottle Filler  | E420   | 24-Jan-2023   | 26-Jan-2023              | ----          | ----   |      | 27-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 453 Rm 411 Bottle Filler  | E420   | 24-Jan-2023   | 26-Jan-2023              | ----          | ----   |      | 27-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 453 Rm 421 DF             | E420   | 24-Jan-2023   | 26-Jan-2023              | ----          | ----   |      | 27-Jan-2023   | 180 days      | 3 days | ✓    |



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)               | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 700 Rm 700A Bottle Filler | E420   | 24-Jan-2023   | 26-Jan-2023              | ----          | ----   |      | 27-Jan-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS              |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm 616 Uni Gym SSDF            | E420   | 24-Jan-2023   | 26-Jan-2023              | ----          | ----   |      | 27-Jan-2023   | 180 days      | 3 days | ✓    |

**Legend & Qualifier Definitions**

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 814732   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 814732   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 814732   | 1     | 15      | 6.6           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 814732   | 1     | 15      | 6.6           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1768</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Vancouver Technical Secondary                   | Date Samples Received   | : 25-Jan-2023 15:10                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 26-Jan-2023                                                       |
| C-O-C number            | : 20-1041683                                      | Issue Date              | : 30-Jan-2023 17:31                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 9                                               |                         |                                                                     |
| No. of samples analysed | : 9                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 814732) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A1676-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000082        | 0.000075         | 0.000007             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 814732) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 814732) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 98.0         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 814732) |                  |             |            |        |                          |           |              |                     |      |
| VA23A1680-041                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0172 mg/L              | 0.02 mg/L | 86.1         | 70.0                | 130  |



COC Number: 20 - 1041683

**Canada Toll Free: 1 800 668 9878**

Page of

| Report To                                                                                                            |                                                                                          | Contact and company name below will appear on the final report               |                                                                                                               | Reports / Recipients                                                                               |                                                                                                      | Turnaround Time (TAT) Requested                                                                                                                                                                     |            |         |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------|--|--|--|--|
| Company:                                                                                                             | VANCOUVER SCHOOL BOARD                                                                   | Select Report Format:                                                        | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) |                                                                                                    |                                                                                                      | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply                                                                                                        |            |         |  |  |  |  |
| Contact:                                                                                                             | STEPHEN THOMAS                                                                           | Merge QC/QCI Reports with COA                                                | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         |                                                                                                    |                                                                                                      | <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum                                                                                                             |            |         |  |  |  |  |
| Phone:                                                                                                               | 604-713-3632                                                                             | Compare Results to Criteria on Report - provide details below if box checked | <input type="checkbox"/>                                                                                      |                                                                                                    |                                                                                                      | <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum                                                                                                             |            |         |  |  |  |  |
| Company address below will appear on the final report                                                                |                                                                                          |                                                                              |                                                                                                               | Select Distribution:                                                                               | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX | <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum                                                                                                             |            |         |  |  |  |  |
| Street:                                                                                                              | 1549 clark drive                                                                         | Email 1 or Fax                                                               | 55THOMAS@vsb.bc.ca                                                                                            |                                                                                                    |                                                                                                      | <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum                                                                                                             |            |         |  |  |  |  |
| City/Province:                                                                                                       | Vancouver BC                                                                             | Email 2                                                                      | cgarrell@vsb.bc.ca                                                                                            |                                                                                                    |                                                                                                      | <input type="checkbox"/> Same day [EZ] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests              |            |         |  |  |  |  |
| Postal Code:                                                                                                         |                                                                                          | Email 3                                                                      | JdVong@vsb.bc.ca                                                                                              |                                                                                                    |                                                                                                      | Date and Time Required for all E&P TATs: dd-mm-yy hh:mm am/pm                                                                                                                                       |            |         |  |  |  |  |
| Invoice To                                                                                                           | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO    | Invoice Recipients                                                           |                                                                                                               |                                                                                                    |                                                                                                      | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                             |            |         |  |  |  |  |
|                                                                                                                      | Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO     | Select Invoice Distribution:                                                 | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                     |                                                                                                    |                                                                                                      | Analysis Request                                                                                                                                                                                    |            |         |  |  |  |  |
| Company:                                                                                                             |                                                                                          | Email 1 or Fax                                                               |                                                                                                               |                                                                                                    |                                                                                                      | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                          |            |         |  |  |  |  |
| Contact:                                                                                                             |                                                                                          | Email 2                                                                      |                                                                                                               |                                                                                                    |                                                                                                      |                                                                                                                                                                                                     |            |         |  |  |  |  |
| Project Information                                                                                                  |                                                                                          |                                                                              |                                                                                                               | Oil and Gas Required Fields (client use)                                                           |                                                                                                      |                                                                                                                                                                                                     |            |         |  |  |  |  |
| ALS Account # / Quote #:                                                                                             |                                                                                          |                                                                              |                                                                                                               | AFC/Cost Center:                                                                                   | PO#                                                                                                  |                                                                                                                                                                                                     |            |         |  |  |  |  |
| Job #: VANCOUVER TECHNICAL SECONDARY                                                                                 |                                                                                          |                                                                              |                                                                                                               | Major/Minor Code:                                                                                  | Routing Code:                                                                                        |                                                                                                                                                                                                     |            |         |  |  |  |  |
| PO / AFE:                                                                                                            |                                                                                          |                                                                              |                                                                                                               | Requisitioner:                                                                                     |                                                                                                      |                                                                                                                                                                                                     |            |         |  |  |  |  |
| LSD:                                                                                                                 |                                                                                          |                                                                              |                                                                                                               | Location:                                                                                          |                                                                                                      |                                                                                                                                                                                                     |            |         |  |  |  |  |
| ALS Lab Work Order # (ALS use only):                                                                                 |                                                                                          |                                                                              |                                                                                                               | ALS Contact: T.Taranum                                                                             |                                                                                                      | Sampler: K.Messamore                                                                                                                                                                                |            |         |  |  |  |  |
| ALS Sample #<br>(ALS use only)                                                                                       | Sample Identification and/or Coordinates<br>(This description will appear on the report) |                                                                              |                                                                                                               | Date<br>(dd-mm-yy)                                                                                 | Time<br>(hh:mm)                                                                                      | Sample Type                                                                                                                                                                                         |            |         |  |  |  |  |
|                                                                                                                      | Coff 700 RM 700A Bottle Filler                                                           |                                                                              |                                                                                                               | 25-JAN-23                                                                                          | 7:17                                                                                                 | WATER                                                                                                                                                                                               |            |         |  |  |  |  |
|                                                                                                                      | CAFETERIA 803 Bottle Filler                                                              |                                                                              |                                                                                                               | 25-JAN-23                                                                                          | 7:20                                                                                                 | WATER                                                                                                                                                                                               |            |         |  |  |  |  |
|                                                                                                                      | Coff -258 RM 258A Bottle Filler                                                          |                                                                              |                                                                                                               | 25-JAN-23                                                                                          | 7:30                                                                                                 | WATER                                                                                                                                                                                               |            |         |  |  |  |  |
|                                                                                                                      | Coff 353 RM 317 Bottle Filler                                                            |                                                                              |                                                                                                               | 25-JAN-23                                                                                          | 7:34                                                                                                 | WATER                                                                                                                                                                                               |            |         |  |  |  |  |
|                                                                                                                      | Coff 353 RM 311 DF                                                                       |                                                                              |                                                                                                               | 25-JAN-23                                                                                          | 7:36                                                                                                 | WATER                                                                                                                                                                                               |            |         |  |  |  |  |
|                                                                                                                      | Coff 453 RM 411 Bottle Filler                                                            |                                                                              |                                                                                                               | 25-JAN-23                                                                                          | 7:39                                                                                                 | WATER                                                                                                                                                                                               |            |         |  |  |  |  |
|                                                                                                                      | Coff 453 RM 421 DF                                                                       |                                                                              |                                                                                                               | 25-JAN-23                                                                                          | 7:44                                                                                                 | WATER                                                                                                                                                                                               |            |         |  |  |  |  |
|                                                                                                                      | RM 616 Unit GYM SSDF                                                                     |                                                                              |                                                                                                               | 25-JAN-23                                                                                          | 7:52                                                                                                 | WATER                                                                                                                                                                                               |            |         |  |  |  |  |
|                                                                                                                      | AUTOMOTIVE SHOP 602 Bubbler                                                              |                                                                              |                                                                                                               | 25-JAN-23                                                                                          | 8:04                                                                                                 | WATER                                                                                                                                                                                               |            |         |  |  |  |  |
| Drinking Water (DW) Samples <sup>1</sup> (client use)                                                                |                                                                                          |                                                                              |                                                                                                               | Notes / Specify Limits for result evaluation by selecting from drop-down below<br>(Excel COC only) |                                                                                                      | SAMPLE RECEIPT DETAILS (ALS use only)                                                                                                                                                               |            |         |  |  |  |  |
| Are samples taken from a Regulated DW System?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                                                                          |                                                                              |                                                                                                               | No preservatives added                                                                             |                                                                                                      | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED |            |         |  |  |  |  |
| Are samples for human consumption/ use?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO       |                                                                                          |                                                                              |                                                                                                               |                                                                                                    |                                                                                                      | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                             |            |         |  |  |  |  |
|                                                                                                                      |                                                                                          |                                                                              |                                                                                                               |                                                                                                    |                                                                                                      | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                       |            |         |  |  |  |  |
|                                                                                                                      |                                                                                          |                                                                              |                                                                                                               |                                                                                                    |                                                                                                      | INITIAL COOLER TEMPERATURES °C FINAL COOLER TEMPERATURES °C                                                                                                                                         |            |         |  |  |  |  |
|                                                                                                                      |                                                                                          |                                                                              |                                                                                                               |                                                                                                    |                                                                                                      | 5°                                                                                                                                                                                                  |            |         |  |  |  |  |
| SHIPMENT RELEASE (client use)                                                                                        |                                                                                          |                                                                              |                                                                                                               | INITIAL SHIPMENT RECEPTION (ALS use only)                                                          |                                                                                                      | FINAL SHIPMENT RECEPTION (ALS use only)                                                                                                                                                             |            |         |  |  |  |  |
| Released by:                                                                                                         | Date:                                                                                    | Time:                                                                        | Received by:                                                                                                  | Date:                                                                                              | Time:                                                                                                | Received by:                                                                                                                                                                                        | Date:      | Time:   |  |  |  |  |
|                                                                                                                      |                                                                                          |                                                                              |                                                                                                               |                                                                                                    |                                                                                                      | RD                                                                                                                                                                                                  | Jan 25, 23 | 2:10 PM |  |  |  |  |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

AUG 2021 FRONT



Results Summary VA23A1768

|               |                                        |
|---------------|----------------------------------------|
| Project       | Vancouver Technical Secondary          |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 25-Jan-2023 15:10                      |
| Issue Date    | 30-Jan-2023 17:31                      |
| Amendment     | 0                                      |

|                              |                           |       |                                   |                                |                                   |                                  |                      |                                  |                      |                        |                                |
|------------------------------|---------------------------|-------|-----------------------------------|--------------------------------|-----------------------------------|----------------------------------|----------------------|----------------------------------|----------------------|------------------------|--------------------------------|
| Client Sample ID             |                           |       | Corr 700 Rm 700A<br>Bottle Filler | Cafeteria 803 Bottle<br>Filler | Corr 258 Rm 258A<br>Bottle Filler | Corr 353 RM 317<br>Bottle Filler | Corr 353 Rm 311 DF   | Corr 453 Rm 411<br>Bottle Filler | Corr 453 Rm 421 DF   | Rm 616 Uni Gym<br>SSDF | Automotive Shop 602<br>Bubbler |
| Date Sampled                 |                           |       | 24-Jan-2023                       | 24-Jan-2023                    | 24-Jan-2023                       | 24-Jan-2023                      | 24-Jan-2023          | 24-Jan-2023                      | 24-Jan-2023          | 24-Jan-2023            | 24-Jan-2023                    |
| Time Sampled                 |                           |       | 07:17                             | 07:20                          | 07:30                             | 07:34                            | 07:36                | 07:39                            | 07:44                | 07:52                  | 08:04                          |
| ALS Sample ID                |                           |       | VA23A1768-001                     | VA23A1768-002                  | VA23A1768-003                     | VA23A1768-004                    | VA23A1768-005        | VA23A1768-006                    | VA23A1768-007        | VA23A1768-008          | VA23A1768-009                  |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water              | Sub-Matrix:<br>Water           | Sub-Matrix:<br>Water              | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water   | Sub-Matrix:<br>Water           |
| Total Metals (Matrix: Water) |                           |       |                                   |                                |                                   |                                  |                      |                                  |                      |                        |                                |
| Lead, total                  | 0.000050                  | mg/L  | 0.000338                          | 0.000381                       | 0.000400                          | 0.000065                         | 0.00194              | 0.00143                          | 0.000763             | 0.000265               | 0.000728                       |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2720</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : George Weir Elementary                          | Date Samples Received   | : 06-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 07-Feb-2023                                                       |
| C-O-C number            | : 17-866750                                       | Issue Date              | : 08-Feb-2023 09:06                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i>                         | <i>Laboratory Department</i>      |
|--------------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte       | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2720</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : George Weir Elementary                          | Date Samples Received | : 06-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Issue Date            | : 08-Feb-2023 09:06                                                 |
| C-O-C number            | : 17-866750                                       |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 2                                               |                       |                                                                     |
| No. of samples analysed | : 2                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                 | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 102 Rm 144 Bottle Filler | E420   | 06-Feb-2023   | 07-Feb-2023              | ----          | ----   |      | 08-Feb-2023   | 180 days      | 2 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 201 Rm 205 Bottle Filler | E420   | 06-Feb-2023   | 07-Feb-2023              | ----          | ----   |      | 08-Feb-2023   | 180 days      | 2 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 826910   | 1     | 18      | 5.5           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 826910   | 1     | 18      | 5.5           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 826910   | 1     | 18      | 5.5           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 826910   | 1     | 18      | 5.5           | 5.0      | ✓          |





## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A2720</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : George Weir Elementary                          | Date Samples Received   | : 06-Feb-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 07-Feb-2023                                                       |
| C-O-C number            | : 17-866750                                       | Issue Date              | : 08-Feb-2023 09:07                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 826910) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| FJ2300263-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 826910) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 826910) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 826910) |                  |             |            |        |                          |           |              |                     |      |
| FJ2300263-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0182 mg/L              | 0.02 mg/L | 90.8         | 70.0                | 130  |



ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here  
(lab use only)

COC Number: 17- 8666750

Page of

Report To: Contact and company name below will appear on the final report

Report Format / Distribution

Select Service Level Below - Contact your AM to confirm all E&P T&Ts (surcharges may apply)

Company: VANCOUVER SCHOOL BOARD

Select Report Format: ☒ PDF ☐ EXCEL ☐ BPD (DIGITAL)

Regular RI ☒ Standard TAT if received by 2 pm - business days - no surcharges apply

Contact: STEPHEN THOMAS

Quality Control (QC) Report with Report ☐ YES ☐ NO

1 Business day (E - 100%)

Phone: 604-213-3637

Company Results to Criteria on Report - provide details below if box checked

3 day (P3-25%)

Street: 1599 Clark Drive

Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX

2 day (P2-50%)

City/Province: Vancouver BC

Email 1 or Fax: STHOMAS@VSB.BC.CA

Emergency: Same Day, Weekend or Statutory holiday (E2-200% (Laboratory opening fees may apply))

Postal Code: V6C 2A6

Email 2: CARRILL@VSB.BC.CA

Date and Time Required for all E&P T&Ts: dd-mm-yy hh:mm

Invoice To: Same as Report To ☐ YES ☐ NO

Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX

Company: Copy of Invoice with Report ☐ YES ☐ NO

Email 1 or Fax: Email 2

Contact: Project Information

Oil and Gas Required Fields (client use)

ALS Account # / Quote #:

AFFCO/Center: PO#:

Job #: George Wier Elementary

Major/Minor Code: Routing Code:

PO / AFE: Requisitioner:

Location:

LSD:

ALS Lab Work Order # (lab use only): A773

ALS Contact: T.TARIN@VSB

Sampler: K.MESAMORE

ALS Sample # (lab use only):

Sample Identification and/or Coordinates (This description will appear on the report)

Date (dd-mm-yy): Time (hh:mm): Sample Type

Corr 162 RM 144 Boiler Filter

6-Feb-23 7:05 WATER

Corr 201 RM 205 Boiler Filter

6-Feb-23 7:10 WATER

# Results Summary VA23A2720

|               |                                        |
|---------------|----------------------------------------|
| Project       | George Weir Elementary                 |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 06-Feb-2023 14:45                      |
| Issue Date    | 08-Feb-2023 09:06                      |
| Amendment     | 0                                      |

|                                     |                           |       |                                  |                                  |
|-------------------------------------|---------------------------|-------|----------------------------------|----------------------------------|
| Client Sample ID                    |                           |       | Corr 102 Rm 144<br>Bottle Filler | Corr 201 Rm 205<br>Bottle Filler |
| Date Sampled                        |                           |       | 06-Feb-2023                      | 06-Feb-2023                      |
| Time Sampled                        |                           |       | 07:05                            | 07:10                            |
| ALS Sample ID                       |                           |       | VA23A2720-001                    | VA23A2720-002                    |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water             |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                                  |                                  |
| Lead, total                         | 0.000050                  | mg/L  | 0.000148                         | 0.000067                         |

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## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

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|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1310</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Windermere Secondary                            | Date Samples Received   | : 19-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 23-Jan-2023                                                       |
| C-O-C number            | : 20-1041760/765                                  | Issue Date              | : 24-Jan-2023 17:41                                                 |
| Sampler                 | : K. Messamore                                    |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 14                                              |                         |                                                                     |
| No. of samples analysed | : 14                                              |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position                    | Laboratory Department             |
|-------------|-----------------------------|-----------------------------------|
| Kim Jensen  | Department Manager - Metals | Metals, Burnaby, British Columbia |
| Robin Weeks | Team Leader - Metals        | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.





Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1310</b>                                | Page                  | : 1 of 6                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : Windermere Secondary                            | Date Samples Received | : 19-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 24-Jan-2023 17:41                                                 |
| C-O-C number            | : 20-1041760/765                                  |                       |                                                                     |
| Sampler                 | : K. Messamore                                    |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 14                                              |                       |                                                                     |
| No. of samples analysed | : 14                                              |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                        | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                      |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                      |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>corr 139 rm 106 SSDF | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 23-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 139 rm 114C DF  | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 23-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 201 rm B202 DF  | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 23-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm 116 Bubbler       | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 23-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Rm 118 Bubbler       | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 23-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM 236 Bubbler       | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 23-Jan-2023   | 180 days      | 4 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>RM 237 Bubbler       | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 23-Jan-2023   | 180 days      | 4 days | ✓    |



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)              | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                               |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                               |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Boys change rm 250 DF         | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 140 rm 131 Bottle Filler | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 240 rm 224 Bottle Filler | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 245 rm 202 Bottle Filler | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 332 rm 317 DF            | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 333 rm 302 Bottle Filler | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 5 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS             |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Girls change rm 246 DF        | E420   | 19-Jan-2023   | 23-Jan-2023              | ----          | ----   |      | 24-Jan-2023   | 180 days      | 5 days | ✓    |

**Legend & Qualifier Definitions**

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 810216   | 2     | 36      | 5.5           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 810216   | 2     | 36      | 5.5           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 810216   | 2     | 36      | 5.5           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 810216   | 2     | 36      | 5.5           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1310</b>                                | Page                    | : 1 of 4                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : Windermere Secondary                            | Date Samples Received   | : 19-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 23-Jan-2023                                                       |
| C-O-C number            | : 20-1041760/765                                  | Issue Date              | : 24-Jan-2023 17:41                                                 |
| Sampler                 | : K. Messamore_                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 14                                              |                         |                                                                     |
| No. of samples analysed | : 14                                              |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position                    | Laboratory Department                       |
|-------------|-----------------------------|---------------------------------------------|
| Kim Jensen  | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |
| Robin Weeks | Team Leader - Metals        | Vancouver Metals, Burnaby, British Columbia |





General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                      |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|----------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID     | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 810216) |                      |             |            |        |                                   |      |                 |                  |                      |                  |           |
| FJ2300138-001                 | Anonymous            | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000344        | 0.000346         | 0.000002             | Diff <2x LOR     | ----      |
| Total Metals (QC Lot: 810217) |                      |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A1310-008                 | corr 139 rm 106 SSDF | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.00628         | 0.00646          | 2.94%                | 20%              | ----      |



## Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

| Analyte                             | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
|-------------------------------------|------------|--------|---------|------|-----------|-----------|
| <b>Total Metals (QCLot: 810216)</b> |            |        |         |      |           |           |
| Lead, total                         | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |
| <b>Total Metals (QCLot: 810217)</b> |            |        |         |      |           |           |
| Lead, total                         | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |

## Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

|                                     |            |        |         |      | <b>Laboratory Control Sample (LCS) Report</b> |                     |                            |      |           |
|-------------------------------------|------------|--------|---------|------|-----------------------------------------------|---------------------|----------------------------|------|-----------|
|                                     |            |        |         |      | <b>Spike</b>                                  | <b>Recovery (%)</b> | <b>Recovery Limits (%)</b> |      |           |
| Analyte                             | CAS Number | Method | LOR     | Unit | Concentration                                 | LCS                 | Low                        | High | Qualifier |
| <b>Total Metals (QCLot: 810216)</b> |            |        |         |      |                                               |                     |                            |      |           |
| Lead, total                         | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                                      | 100                 | 80.0                       | 120  | ----      |
| <b>Total Metals (QCLot: 810217)</b> |            |        |         |      |                                               |                     |                            |      |           |
| Lead, total                         | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                                      | 97.7                | 80.0                       | 120  | ----      |

## Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level  $\geq 1 \times$  spike level.

Sub-Matrix: **Water**

|                                     |                     |             |            |        | <b>Matrix Spike (MS) Report</b> |           |                     |                            |      |
|-------------------------------------|---------------------|-------------|------------|--------|---------------------------------|-----------|---------------------|----------------------------|------|
|                                     |                     |             |            |        | <b>Spike</b>                    |           | <b>Recovery (%)</b> | <b>Recovery Limits (%)</b> |      |
| Laboratory sample ID                | Client sample ID    | Analyte     | CAS Number | Method | Concentration                   | Target    | MS                  | Low                        | High |
| <b>Total Metals (QCLot: 810216)</b> |                     |             |            |        |                                 |           |                     |                            |      |
| VA23A1288-037                       | Anonymous           | Lead, total | 7439-92-1  | E420   | 0.0194 mg/L                     | 0.02 mg/L | 96.8                | 70.0                       | 130  |
| <b>Total Metals (QCLot: 810217)</b> |                     |             |            |        |                                 |           |                     |                            |      |
| VA23A1310-009                       | Corr 139 rm 114C DF | Lead, total | 7439-92-1  | E420   | 0.0185 mg/L                     | 0.02 mg/L | 92.3                | 70.0                       | 130  |





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## Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20-1041760

Page 1 of 2

|                                                                                    |                                                                                          |                                                                                                           |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------|
| <b>Report To</b><br>Contact and company name below will appear on the final report |                                                                                          | <b>Reports / Recipients</b>                                                                               |                                                                                                               | <b>Turnaround Time (TAT) Requested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             | <b>AFFIX ALS BARCODE LABEL HERE</b><br>(ALS use only) |
| Company:                                                                           | VANCOUVER SCHOOL BOARD                                                                   | Select Report Format:                                                                                     | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) | <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply<br><input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum<br><input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum<br><input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum<br><input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum<br><input type="checkbox"/> Same day [EZ] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests |             |                                                       |
| Contact:                                                                           | 604-713-5637                                                                             | Merge QC/QCI Reports with COA                                                                             | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |
| Phone:                                                                             | STEPHEN THOMAS                                                                           | Select Distribution:                                                                                      | <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |
| Company address below will appear on the final report                              |                                                                                          | Select Invoice Distribution:                                                                              |                                                                                                               | Date and Time Required for all E&P TATs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             | dd-mm-yy hh:mm am/pm                                  |
| Street:                                                                            | 1549 Clark drive                                                                         | Email 1 or Fax:                                                                                           | SSTHOMAS@VSB.bc.ca                                                                                            | For all tests with rush TATs requested, please contact your AM to confirm availability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                                       |
| City/Province:                                                                     | Vancouver BC                                                                             | Email 2:                                                                                                  | Ccarrell@VSB.bc.ca                                                                                            | <b>Analysis Request</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                                       |
| Postal Code:                                                                       |                                                                                          | Email 3:                                                                                                  | Jduong@VSB.bc.ca                                                                                              | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                                                       |
| Invoice To:                                                                        | Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO    | Invoice Recipients                                                                                        |                                                                                                               | <div style="display: flex; justify-content: space-between;"> <div> <b>NUMBER OF CONTAINERS</b><br/>LEAD           </div> <div> <b>SAMPLES ON HOLD</b><br/> <b>EXTENDED STORAGE REQUIRED</b><br/> <b>SUSPECTED HAZARD (see notes)</b> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                                       |
| Copy of Invoice with Report                                                        | <input type="checkbox"/> YES <input type="checkbox"/> NO                                 | Select Invoice Distribution:                                                                              | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |
| Company:                                                                           |                                                                                          | Email 1 or Fax:                                                                                           |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |
| Contact:                                                                           |                                                                                          | Email 2:                                                                                                  |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |
| <b>Project Information</b>                                                         |                                                                                          | <b>Oil and Gas Required Fields (client use)</b>                                                           |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |
| ALS Account # / Quote #                                                            |                                                                                          | AFE/Cost Center:                                                                                          | PO#                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |
| Job #:                                                                             | Windermere Secondary                                                                     | Major/Minor Code:                                                                                         | Routing Code:                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |
| PO / AFE:                                                                          |                                                                                          | Requisitioner:                                                                                            |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |
| LSD:                                                                               |                                                                                          | Location:                                                                                                 |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |
| ALS Lab Work Order # (ALS use only):                                               |                                                                                          | ALS Contact:                                                                                              | T. Tammum                                                                                                     | Sampler:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | K. McEsmore |                                                       |
| ALS Sample # (ALS use only)                                                        | Sample Identification and/or Coordinates<br>(This description will appear on the report) | Date<br>(dd-mm-yy)                                                                                        | Time<br>(hh:mm)                                                                                               | Sample Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                                                       |
|                                                                                    | Girls change RM 246 DF                                                                   | 19-JAN-23                                                                                                 | 7:10                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
|                                                                                    | Corr 245 RM 202 Bottle Filler                                                            | 19-JAN-23                                                                                                 | 7:12                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
|                                                                                    | Boys change RM 250 DF                                                                    | 19-JAN-23                                                                                                 | 7:14                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
|                                                                                    | Corr 240 RM 224 Bottle Filler                                                            | 19-JAN-23                                                                                                 | 7:20                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
|                                                                                    | Corr 332 RM 317 DF                                                                       | 19-JAN-23                                                                                                 | 7:26                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
|                                                                                    | Corr 333 RM 302 Bottle Filler                                                            | 19-JAN-23                                                                                                 | 7:30                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
|                                                                                    | Corr 140 RM 131 Bottle Filler                                                            | 19-JAN-23                                                                                                 | 7:35                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
|                                                                                    | Corr 139 RM 106 SSPF                                                                     | 19-JAN-23                                                                                                 | 7:41                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
|                                                                                    | Corr 139 RM 114C DF                                                                      | 19-JAN-23                                                                                                 | 7:44                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
|                                                                                    | RM 118 Bubbler                                                                           | 19-JAN-23                                                                                                 | 7:48                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
|                                                                                    | RM 116 Bubbler                                                                           | 19-JAN-23                                                                                                 | 7:50                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
|                                                                                    | Corr 201 RM 1302 DF                                                                      | 19-JAN-23                                                                                                 | 7:56                                                                                                          | WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                       |
| <b>Drinking Water (DW) Samples (client use)</b>                                    |                                                                                          | <b>Notes / Specify Limits for result evaluation by selecting from drop-down below</b><br>(Excel COC only) |                                                                                                               | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                                       |
| Are samples taken from a Regulated DW System?                                      |                                                                                          | No preservatives added                                                                                    |                                                                                                               | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                                                       |
| Are samples for human consumption/ use?                                            |                                                                                          |                                                                                                           |                                                                                                               | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                                       |
|                                                                                    |                                                                                          |                                                                                                           |                                                                                                               | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                       |
|                                                                                    |                                                                                          |                                                                                                           |                                                                                                               | INITIAL COOLER TEMPERATURES °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                                                       |
|                                                                                    |                                                                                          |                                                                                                           |                                                                                                               | FINAL COOLER TEMPERATURES °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                                       |
|                                                                                    |                                                                                          |                                                                                                           |                                                                                                               | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                                       |
| <b>SHIPMENT RELEASE (client use)</b>                                               |                                                                                          | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                          |                                                                                                               | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                                                       |
| Released by:                                                                       | Date:                                                                                    | Time:                                                                                                     | Received by:                                                                                                  | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Time:       |                                                       |
|                                                                                    |                                                                                          |                                                                                                           |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                       |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



COC Number: 20 - 1041765

**Canada Toll Free: 1 800 668 9878**

Page 2 of 2

[illegible]

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1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Results Summary VA23A1310

|               |                                        |
|---------------|----------------------------------------|
| Project       | Windermere Secondary                   |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 19-Jan-2023 15:00                      |
| Issue Date    | 24-Jan-2023 17:41                      |
| Amendment     | 0                                      |

|                              |                        |       |                        |                               |                       |                               |                    |                               |                               |                      |                     |                   |                   |                     |                   |                   |
|------------------------------|------------------------|-------|------------------------|-------------------------------|-----------------------|-------------------------------|--------------------|-------------------------------|-------------------------------|----------------------|---------------------|-------------------|-------------------|---------------------|-------------------|-------------------|
| Client Sample ID             |                        |       | Girls change rm 246 DF | Corr 245 rm 202 Bottle Filler | Boys change rm 250 DF | Corr 240 rm 224 Bottle Filler | Corr 332 rm 317 DF | Corr 333 rm 302 Bottle Filler | Corr 140 rm 131 Bottle Filler | corr 139 rm 106 SSDF | Corr 139 rm 114C DF | Rm 118 Bubbler    | Rm 116 Bubbler    | Corr 201 rm B202 DF | RM 237 Bubbler    | RM 236 Bubbler    |
| Date Sampled                 |                        |       | 19-Jan-2023            | 19-Jan-2023                   | 19-Jan-2023           | 19-Jan-2023                   | 19-Jan-2023        | 19-Jan-2023                   | 19-Jan-2023                   | 19-Jan-2023          | 19-Jan-2023         | 19-Jan-2023       | 19-Jan-2023       | 19-Jan-2023         | 19-Jan-2023       | 19-Jan-2023       |
| Time Sampled                 |                        |       | 07:10                  | 07:12                         | 07:14                 | 07:20                         | 07:26              | 07:30                         | 07:35                         | 07:41                | 07:44               | 07:48             | 07:50             | 07:56               | 07:59             | 08:01             |
| ALS Sample ID                |                        |       | VA23A1310-001          | VA23A1310-002                 | VA23A1310-003         | VA23A1310-004                 | VA23A1310-005      | VA23A1310-006                 | VA23A1310-007                 | VA23A1310-008        | VA23A1310-009       | VA23A1310-010     | VA23A1310-011     | VA23A1310-012       | VA23A1310-013     | VA23A1310-014     |
| Analyte                      | Lowest Detection Limit | Units | Sub-Matrix: Water      | Sub-Matrix: Water             | Sub-Matrix: Water     | Sub-Matrix: Water             | Sub-Matrix: Water  | Sub-Matrix: Water             | Sub-Matrix: Water             | Sub-Matrix: Water    | Sub-Matrix: Water   | Sub-Matrix: Water | Sub-Matrix: Water | Sub-Matrix: Water   | Sub-Matrix: Water | Sub-Matrix: Water |
| Total Metals (Matrix: Water) |                        |       |                        |                               |                       |                               |                    |                               |                               |                      |                     |                   |                   |                     |                   |                   |
| Lead, total                  | 0.000050               | mg/L  | 0.00254                | 0.000211                      | 0.000510              | 0.000110                      | 0.000560           | 0.000170                      | 0.000179                      | 0.00628              | 0.000468            | 0.00216           | 0.000922          | 0.00154             | 0.0122            | 0.000448          |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0953</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : General Wolfe Elementary                        | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041699                                      | Issue Date              | : 17-Jan-2023 21:15                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.





Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0953</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : General Wolfe Elementary                        | Date Samples Received | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Issue Date            | : 17-Jan-2023 21:15                                                 |
| C-O-C number            | : 20-1041699                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 5                                               |                       |                                                                     |
| No. of samples analysed | : 5                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

| Analyte Group                                                      | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|--------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                    |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                    |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>B Building Corr 100 Rm 102 SSDF    | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>B Building Rm 104 DF               | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 100 Rm 103C DF                | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr 201 Rm 210 Bottle Filler      | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                  |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Play area 001 Rm 012 Bottle Filler | E420   | 16-Jan-2023   | 17-Jan-2023              | ----          | ----   |      | 17-Jan-2023   | 180 days      | 1 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 804402   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A0953</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : General Wolfe Elementary                        | Date Samples Received   | : 16-Jan-2023 15:00                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 17-Jan-2023                                                       |
| C-O-C number            | : 20-1041699                                      | Issue Date              | : 17-Jan-2023 21:15                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 5                                               |                         |                                                                     |
| No. of samples analysed | : 5                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 804402) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A0952-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000154        | 0.000155         | 0.000002             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 804402) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |





Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 804402) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 103          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 804402) |                  |             |            |        |                          |           |              |                     |      |
| VA23A0952-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0190 mg/L              | 0.02 mg/L | 94.9         | 70.0                | 130  |

AUG 2020 FROM

# Results Summary VA23A0953

|               |                                        |
|---------------|----------------------------------------|
| Project       | General Wolfe Elementary               |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 16-Jan-2023 15:00                      |
| Issue Date    | 17-Jan-2023 21:16                      |
| Amendment     | 0                                      |

|                              |                           |       |                                       |                      |                                  |                                    |                      |
|------------------------------|---------------------------|-------|---------------------------------------|----------------------|----------------------------------|------------------------------------|----------------------|
| Client Sample ID             |                           |       | Play area 001 Rm 012<br>Bottle Filler | Corr 100 Rm 103C DF  | Corr 201 Rm 210<br>Bottle Filler | B Building Corr 100<br>Rm 102 SSDF | B Building Rm 104 DF |
| Date Sampled                 |                           |       | 16-Jan-2023                           | 16-Jan-2023          | 16-Jan-2023                      | 16-Jan-2023                        | 16-Jan-2023          |
| Time Sampled                 |                           |       | 12:16                                 | 12:22                | 12:24                            | 12:30                              | 12:34                |
| ALS Sample ID                |                           |       | VA23A0953-001                         | VA23A0953-002        | VA23A0953-003                    | VA23A0953-004                      | VA23A0953-005        |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water                  | Sub-Matrix:<br>Water | Sub-Matrix:<br>Water             | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water |
| Total Metals (Matrix: Water) |                           |       |                                       |                      |                                  |                                    |                      |
| Lead, total                  | 0.000050                  | mg/L  | <0.000050                             | 0.000072             | 0.000075                         | 0.000594                           | 0.000951             |

---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3081</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : wekwanes te syaqwem Elementary school           | Date Samples Received   | : 09-Feb-2023 15:55                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 10-Feb-2023                                                       |
| C-O-C number            | : 20-1041758                                      | Issue Date              | : 13-Feb-2023 09:21                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department             |
|--------------|-----------------------------------------|-----------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3081</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : wekwanes te syaqwem Elementary school           | Date Samples Received | : 09-Feb-2023 15:55                                                 |
| PO                      | : ----                                            | Issue Date            | : 13-Feb-2023 09:21                                                 |
| C-O-C number            | : 20-1041758                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 2                                               |                       |                                                                     |
| No. of samples analysed | : 2                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.





## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group                                                   | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|-----------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| Container / Client Sample ID(s)                                 |        |               | Preparation Date         | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                 |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. Rm.230 Bottle Filler      | E420   | 09-Feb-2023   | 10-Feb-2023              | ----          | ----   |      | 12-Feb-2023   | 180 days      | 3 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS               |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Main Lobby Rm.109 Bottle Filler | E420   | 09-Feb-2023   | 10-Feb-2023              | ----          | ----   |      | 12-Feb-2023   | 180 days      | 3 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        |        |          | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
| Analytical Methods                 | Method | QC Lot # | QC    | Regular | Actual        | Expected | Evaluation |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 830060   | 1     | 17      | 5.8           | 5.0      | ✔          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 830060   | 1     | 17      | 5.8           | 5.0      | ✔          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 830060   | 1     | 17      | 5.8           | 5.0      | ✔          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 830060   | 1     | 17      | 5.8           | 5.0      | ✔          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A3081</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : wekwanes te syaqwem Elementary school           | Date Samples Received   | : 09-Feb-2023 15:55                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 10-Feb-2023                                                       |
| C-O-C number            | : 20-1041758                                      | Issue Date              | : 13-Feb-2023 09:20                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 2                                               |                         |                                                                     |
| No. of samples analysed | : 2                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories  | Position                                | Laboratory Department                       |
|--------------|-----------------------------------------|---------------------------------------------|
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 830060) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A3033-001                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000115        | 0.000104         | 0.000010             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water             |            |        |         |      |           |           |
|-------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QC Lot: 830060) |            |        |         |      |           |           |
| Lead, total                   | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

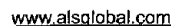
|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 830060) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 98.4         | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

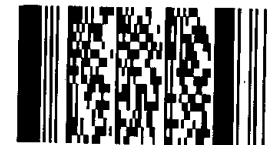
|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 830060) |                  |             |            |        |                          |           |              |                     |      |
| VA23A3033-002                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0178 mg/L              | 0.02 mg/L | 88.9         | 70.0                | 130  |



COC Number: 20-1041758

**Canada Toll Free: 1 800 668 9878**

Work Order Reference  
**VA23A3081**



Telephone : +1 604 253 4188

[illegible]

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

## Results Summary VA23A3081

|                      |                                        |
|----------------------|----------------------------------------|
| <b>Project</b>       | wekwanes te syaqwem Elementary school  |
| <b>Report To</b>     | Stephen Thomas, Vancouver School Board |
| <b>Date Received</b> | 09-Feb-2023 15:55                      |
| <b>Issue Date</b>    | 13-Feb-2023 09:21                      |
| <b>Amendment</b>     | 0                                      |

|                                     |                           |       |                                    |                               |
|-------------------------------------|---------------------------|-------|------------------------------------|-------------------------------|
| Client Sample ID                    |                           |       | Main Lobby Rm.109<br>Bottle Filler | Corr. Rm.230 Bottle<br>Filler |
| Date Sampled                        |                           |       | 09-Feb-2023                        | 09-Feb-2023                   |
| Time Sampled                        |                           |       | 07:28                              | 07:35                         |
| ALS Sample ID                       |                           |       | VA23A3081-001                      | VA23A3081-002                 |
| Analyte                             | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water               | Sub-Matrix:<br>Water          |
| <b>Total Metals (Matrix: Water)</b> |                           |       |                                    |                               |
| Lead, total                         | 0.000050                  | mg/L  | 0.000105                           | 0.000288                      |



---

## CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

---

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1644</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : X-Pey Elementary                                | Date Samples Received   | : 24-Jan-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 25-Jan-2023                                                       |
| C-O-C number            | : 20-1041703                                      | Issue Date              | : 25-Jan-2023 23:02                                                 |
| Sampler                 | : R. Lemay                                        |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 6                                               |                         |                                                                     |
| No. of samples analysed | : 6                                               |                         |                                                                     |

---

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

---

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department             |
|-------------|----------------------|-----------------------------------|
| Robin Weeks | Team Leader - Metals | Metals, Burnaby, British Columbia |



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

| Unit | Description          |
|------|----------------------|
| mg/L | milligrams per litre |

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.



Analytical Results Evaluation

Matrix:

|                    |            |      |      |      |      |      |      |      |      |
|--------------------|------------|------|------|------|------|------|------|------|------|
| Client sample ID   |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sampling date/time |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sub-Matrix         |            |      | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Analyte            | CAS Number | Unit | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|                    |            |      |      |      |      |      |      |      |      |
|                    |            | -    |      |      |      |      |      |      |      |

Please refer to the General Comments section for an explanation of any qualifiers detected.

|             |           |      |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|
| Lead, total | 7439-92-1 | mg/L |  |  |  |  |  |  |  |
|-------------|-----------|------|--|--|--|--|--|--|--|

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |                                                   |                       |                                                                     |
|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1644</b>                                | Page                  | : 1 of 5                                                            |
| Client                  | : <b>Vancouver School Board</b>                   | Laboratory            | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager       | : Tasnia Tarannum                                                   |
| Address                 | : 1549 Clark Drive<br>Vancouver BC Canada V5L 3L4 | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----                                            | Telephone             | : +1 604 253 4188                                                   |
| Project                 | : X-Pey Elementary                                | Date Samples Received | : 24-Jan-2023 14:45                                                 |
| PO                      | : ----                                            | Issue Date            | : 25-Jan-2023 23:02                                                 |
| C-O-C number            | : 20-1041703                                      |                       |                                                                     |
| Sampler                 | : R. Lemay                                        |                       |                                                                     |
| Site                    | : ----                                            |                       |                                                                     |
| Quote number            | : Standing Offer                                  |                       |                                                                     |
| No. of samples received | : 6                                               |                       |                                                                     |
| No. of samples analysed | : 6                                               |                       |                                                                     |

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### **Workorder Comments**

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### **Outliers: Reference Material (RM) Samples**

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- No Analysis Holding Time Outliers exist.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.



## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

| Analyte Group<br>Container / Client Sample ID(s)                     | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|----------------------------------------------------------------------|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|                                                                      |        |               | Preparation<br>Date      | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|                                                                      |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Building 103B, Rm. 102, Kitchen Sink | E420   | 24-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180<br>days   | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Building 103B, Rm. 102, Lower Sink   | E420   | 24-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180<br>days   | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 100, Rm. 105 Bottle Filler     | E420   | 24-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180<br>days   | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Corr. 200, Rm. 205 D.F.              | E420   | 24-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180<br>days   | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Lunchroom 009 Left D.F.              | E420   | 24-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180<br>days   | 1 days | ✓    |
| Total Metals : Total metals in Water by CRC ICPMS                    |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Lunchroom 009 Right D.F.             | E420   | 24-Jan-2023   | 25-Jan-2023              | ----          | ----   |      | 25-Jan-2023   | 180<br>days   | 1 days | ✓    |

### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

| Quality Control Sample Type        | Method | QC Lot # | Count |         | Frequency (%) |          |            |
|------------------------------------|--------|----------|-------|---------|---------------|----------|------------|
|                                    |        |          | QC    | Regular | Actual        | Expected | Evaluation |
| Analytical Methods                 |        |          |       |         |               |          |            |
| Laboratory Duplicates (DUP)        |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 813272   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Laboratory Control Samples (LCS)   |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 813272   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Method Blanks (MB)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 813272   | 1     | 20      | 5.0           | 5.0      | ✓          |
| Matrix Spikes (MS)                 |        |          |       |         |               |          |            |
| Total metals in Water by CRC ICPMS | E420   | 813272   | 1     | 20      | 5.0           | 5.0      | ✓          |



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

| Analytical Methods                 | Method / Lab                             | Matrix | Method Reference         | Method Descriptions                                                                                                                                                                                                           |
|------------------------------------|------------------------------------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total metals in Water by CRC ICPMS | E420<br><br>Vancouver -<br>Environmental | Water  | EPA 200.2/6020B<br>(mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |



## QUALITY CONTROL REPORT

|                         |                                                   |                         |                                                                     |
|-------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------------------------|
| Work Order              | : <b>VA23A1644</b>                                | Page                    | : 1 of 3                                                            |
| Client                  | : Vancouver School Board                          | Laboratory              | : Vancouver - Environmental                                         |
| Contact                 | : Stephen Thomas                                  | Account Manager         | : Tasnia Tarannum                                                   |
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| Telephone               | :                                                 | Telephone               | : +1 604 253 4188                                                   |
| Project                 | : X-Pey Elementary                                | Date Samples Received   | : 24-Jan-2023 14:45                                                 |
| PO                      | : ----                                            | Date Analysis Commenced | : 25-Jan-2023                                                       |
| C-O-C number            | : 20-1041703                                      | Issue Date              | : 25-Jan-2023 23:02                                                 |
| Sampler                 | : R. Lemay ----                                   |                         |                                                                     |
| Site                    | : ----                                            |                         |                                                                     |
| Quote number            | : Standing Offer                                  |                         |                                                                     |
| No. of samples received | : 6                                               |                         |                                                                     |
| No. of samples analysed | : 6                                               |                         |                                                                     |

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

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- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

| Signatories | Position             | Laboratory Department                       |
|-------------|----------------------|---------------------------------------------|
| Robin Weeks | Team Leader - Metals | Vancouver Metals, Burnaby, British Columbia |



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
  - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
  - DQO = Data Quality Objective.
  - LOR = Limit of Reporting (detection limit).
  - RPD = Relative Percent Difference
  - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

| Sub-Matrix: Water             |                  |             |            |        | Laboratory Duplicate (DUP) Report |      |                 |                  |                      |                  |           |
|-------------------------------|------------------|-------------|------------|--------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID          | Client sample ID | Analyte     | CAS Number | Method | LOR                               | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Total Metals (QC Lot: 813272) |                  |             |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23A1596-004                 | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.000050                          | mg/L | 0.000205        | 0.000280         | 0.000075             | Diff <2x LOR     | ----      |

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

| Sub-Matrix: Water            |            |        |         |      |           |           |
|------------------------------|------------|--------|---------|------|-----------|-----------|
| Analyte                      | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
| Total Metals (QCLot: 813272) |            |        |         |      |           |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | <0.000050 | ----      |



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

|                              |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|------------------------------|------------|--------|---------|------|----------------------------------------|--------------|---------------------|------|-----------|
|                              |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                      | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 813272) |            |        |         |      |                                        |              |                     |      |           |
| Lead, total                  | 7439-92-1  | E420   | 0.00005 | mg/L | 0.5 mg/L                               | 100          | 80.0                | 120  | ----      |

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

|                              |                  |             |            |        | Matrix Spike (MS) Report |           |              |                     |      |
|------------------------------|------------------|-------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|
|                              |                  |             |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |
| Laboratory sample ID         | Client sample ID | Analyte     | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High |
| Total Metals (QCLot: 813272) |                  |             |            |        |                          |           |              |                     |      |
| VA23A1596-005                | Anonymous        | Lead, total | 7439-92-1  | E420   | 0.0199 mg/L              | 0.02 mg/L | 99.4         | 70.0                | 130  |



COC Number: 20 - 1041703

**Canada Toll Free: 1 800 668 9878**

Page

**Work Order Reference**

Work Order Reference  
**VA23A1644**



Telephone : +1 604 253 4188

|                                                                                                                                                                                                                                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report To</b><br>Company: <u>Vancouver School Board</u><br>Contact: <u>Stephen Thomas</u><br>Phone: <u>604 713-5637</u><br>Company address below will appear on the final report                                                   |       | <b>Reports - Recipients</b><br>Select Report Format: <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)<br>Merge QC/QCI Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A<br><input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked<br>Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX<br>Email 1 or Fax: <u>sstthomas@vsb.bc.ca</u><br>Email 2: <u>ccarrell@vsb.bc.ca</u><br>Email 3: <u>jd.vong@vsb.bc.ca</u> |                        | <b>Turnaround Time (TAT) Requested</b><br><input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply<br><input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum<br><input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum<br><input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum<br><input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum<br><input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional may apply to rush requests on weekends, statutory holidays and non-routine requests.<br>Date and Time Required for all E&P TATs: _____<br>For all tests with rush TATs requested, please |                                                                                                                                                                                                     |
| <b>Invoice To</b><br>Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br>Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br>Company:<br>Contact: |       | <b>Invoice Recipients</b><br>Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX<br>Email 1 or Fax:<br>Email 2:                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        | <b>Analysis Results</b><br>Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                     |
| <b>Project Information</b><br>ALS Account # / Quote #: <u>X-Pey Elementary</u><br>Job #: <u>X-Pey Elementary</u><br>PO / AFE:<br>LSD:                                                                                                 |       | <b>Oil and Gas Required Fields (client use)</b><br>AFE/Cost Center: PO#<br>Major/Minor Code: Routing Code:<br>Requisitioner:<br>Location:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | <b>NUMBER OF CONTAINERS</b><br>Lead                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                     |
| ALS Lab Work Order # (ALS use only): <u>1644</u>                                                                                                                                                                                      |       | ALS Contact: <u>T. Tarannum</u> Sampler: <u>R. Lemay</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                     |
| <b>Sample Identification and/or Coordinates</b><br>(This description will appear on the report)                                                                                                                                       |       | <b>Date</b><br>(dd-mm-yy)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Time</b><br>(hh:mm) | <b>Sample Type</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>SAMPLES ON HOLD</b>                                                                                                                                                                              |
| Corr. 200 Rm. 205 D.F.                                                                                                                                                                                                                |       | 24-01-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7:26am                 | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                     |
| Corr. 100 Rm. 105 Bottle Filler                                                                                                                                                                                                       |       | 24-01-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7:31am                 | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>EXTENDED STORAGE REQUIRED</b>                                                                                                                                                                    |
| Lunchroom 009 Left D.F.                                                                                                                                                                                                               |       | 24-01-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7:35am                 | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                     |
| Lunchroom 009 Right D.F.                                                                                                                                                                                                              |       | 24-01-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7:38am                 | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>SUSPECTED HAZARD (see notes)</b>                                                                                                                                                                 |
| Building 103B, Rm. 102, Kitchen sink                                                                                                                                                                                                  |       | 24-01-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7:49am                 | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                     |
| Building 103B, Rm. 102, Lower sink                                                                                                                                                                                                    |       | 24-01-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7:53am                 | water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                     |
| <b>Drinking Water (DW) Samples<sup>1</sup> (client use)</b>                                                                                                                                                                           |       | <b>Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>SAMPLE RECEIPT DETAILS (ALS use only)</b>                                                                                                                                                        |
| Are samples taken from a Regulated DW System?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                  |       | <u>No Preservatives added</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED |
| Are samples for human consumption/ use?<br><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                        |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                             |
|                                                                                                                                                                                                                                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cooler Custody Seals Intact: <input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A |
|                                                                                                                                                                                                                                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | INITIAL COOLER TEMPERATURES °C: _____ FINAL COOLER TEMPERATURES °C: <u>6.8°C</u>                                                                                                                    |
| <b>SHIPMENT RELEASE (client use)</b>                                                                                                                                                                                                  |       | <b>INITIAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>FINAL SHIPMENT RECEPTION (ALS use only)</b>                                                                                                                                                      |
| Released by:                                                                                                                                                                                                                          | Date: | Time:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Received by:           | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Time:                                                                                                                                                                                               |
|                                                                                                                                                                                                                                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                     |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 20 9 FROM

Failure to complete all portions of this form may delay analysis. Please fill in this form I FGI B Y. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

# Results Summary VA23A1644

|               |                                        |
|---------------|----------------------------------------|
| Project       | X-Pey Elementary                       |
| Report To     | Stephen Thomas, Vancouver School Board |
| Date Received | 24-Jan-2023 14:45                      |
| Issue Date    | 25-Jan-2023 23:02                      |
| Amendment     | 0                                      |

|                              |                           |       |                            |                                     |                            |                             |                                         |                                       |
|------------------------------|---------------------------|-------|----------------------------|-------------------------------------|----------------------------|-----------------------------|-----------------------------------------|---------------------------------------|
| Client Sample ID             |                           |       | Corr. 200, Rm. 205<br>D.F. | Corr. 100, Rm. 105<br>Bottle Filler | Lunchroom 009 Left<br>D.F. | Lunchroom 009 Right<br>D.F. | Building 103B, Rm.<br>102, Kitchen Sink | Building 103B, Rm.<br>102, Lower Sink |
| Date Sampled                 |                           |       | 24-Jan-2023                | 24-Jan-2023                         | 24-Jan-2023                | 24-Jan-2023                 | 24-Jan-2023                             | 24-Jan-2023                           |
| Time Sampled                 |                           |       | 07:26                      | 07:31                               | 07:35                      | 07:38                       | 07:49                                   | 07:53                                 |
| ALS Sample ID                |                           |       | VA23A1644-001              | VA23A1644-002                       | VA23A1644-003              | VA23A1644-004               | VA23A1644-005                           | VA23A1644-006                         |
| Analyte                      | Lowest<br>Detection Limit | Units | Sub-Matrix:<br>Water       | Sub-Matrix:<br>Water                | Sub-Matrix:<br>Water       | Sub-Matrix:<br>Water        | Sub-Matrix:<br>Water                    | Sub-Matrix:<br>Water                  |
| Total Metals (Matrix: Water) |                           |       |                            |                                     |                            |                             |                                         |                                       |
| Lead, total                  | 0.000050                  | mg/L  | 0.000540                   | 0.000066                            | 0.000575                   | 0.000823                    | 0.000100                                | 0.000066                              |