# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **Work Order** | : | **KS2405199** | | | |
| Client | : | **Nicola Lakeshore Water Utility Co. Ltd.** | Laboratory | : | ALS Environmental - Vancouver |
| Contact | : | Kevin Rabbitt | Account Manager | : | Caitlin Fountain |
| Address | : | 105 - 1121 McFarlane Way<br>Merritt British Columbia Canada V1K 1B9 | Address | : | 8081 Lougheed Highway<br>Burnaby BC Canada V5A 1W9 |
| Telephone | : | 250 378 4206 | Telephone | : | 250 372 3588 |
| Project | : | Arsenic Plant B | Date Samples Received | : | 11-Dec-2024 10:06 |
| PO | : | ---- | Date Analysis Commenced | : | 13-Dec-2024 |
| C-O-C number | : | ---- | Issue Date | : | 16-Dec-2024 09:15 |
| Sampler | : | Jeff Wike, Nikki Fulford | | | |
| Site | : | Nicola Lakeshore Water Utility | | | |
| Quote number | : | Nicola Lakeshore Routine Tests | | | |
| No. of samples received | : | 1 | | | |
| No. of samples analysed | : | 1 | | | |

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

## *Signatories*

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

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

## General Comments

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

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

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

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

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

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

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

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

## Analytical Results

| Sub-Matrix: Water (Matrix: Water) | | | | | Client sample ID | Arsenic Plant Tank B | ---- | ---- | ---- | ---- |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Client sampling date / time | 11-Dec-2024 08:20 | ---- | ---- | ---- | ---- |
| Analyte | CAS Number | Method/Lab | LOR | Unit | | KS2405199-001 | ---- | ---- | ---- | ---- |
| | | | | | | Result | ---- | ---- | ---- | ---- |
| **Total Metals** | | | | | | | | | | |
| **Arsenic, total** | 7440-38-2 | E420/VA | 0.00010 | mg/L | | 0.00574 | ---- | ---- | ---- | ---- |

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

ALS Canada Ltd.

right solutions.
right partner.

# QUALITY CONTROL INTERPRETIVE REPORT

| | | | |
|---|---|---|---|
| **Work Order** | : **KS2405199** | Page | : 1 of 5 |
| Client | : **Nicola Lakeshore Water Utility Co. Ltd.** | Laboratory | : ALS Environmental - Kamloops |
| Contact | : Kevin Rabbitt | Account Manager | : Caitlin Fountain |
| Address | : 105 - 1121 McFarlane Way<br>Merritt BC Canada V1K 1B9 | Address | : 1445 McGill Road, Unit 2B<br>Kamloops, British Columbia Canada V2C 6K7 |
| Telephone | : 250 378 4206 | Telephone | : 250 372 3588 |
| Project | : Arsenic Plant B | Date Samples Received | : 11-Dec-2024 10:06 |
| PO | : ---- | Issue Date | : 16-Dec-2024 09:16 |
| C-O-C number | : ---- | | |
| Sampler | : Jeff Wike, Nikki Fulford | | |
| Site | : Nicola Lakeshore Water Utility | | |
| Quote number | : Nicola Lakeshore Routine Tests | | |
| 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 : Analytical Method* / **Container / Client Sample ID(s)** | *Method* | *Sampling Date* | *Extraction / Preparation* | | | | *Analysis* | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | *Preparation Date* | *Holding Times* | | *Eval* | *Analysis Date* | *Holding Times* | | *Eval* |
| | | | | *Rec* | *Actual* | | | *Rec* | *Actual* | |
| **Total Metals : Total Metals in Water by CRC ICPMS** | | | | | | | | | | |
| **HDPE - total (lab preserved)** | | | | | | | | | | |
| Arsenic Plant Tank B | E420 | 11-Dec-2024 | 13-Dec-2024 | 180 days | 2 days | ✓ | 14-Dec-2024 | 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 | 1807246 | 1 | 17 | 5.8 | 5.0 | ✓ |
| Laboratory Control Samples (LCS) | | | | | | | |
| Total Metals in Water by CRC ICPMS | E420 | 1807246 | 1 | 17 | 5.8 | 5.0 | ✓ |
| Method Blanks (MB) | | | | | | | |
| Total Metals in Water by CRC ICPMS | E420 | 1807246 | 1 | 17 | 5.8 | 5.0 | ✓ |
| Matrix Spikes (MS) | | | | | | | |
| Total Metals in Water by CRC ICPMS | E420 | 1807246 | 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>ALS Environmental - Vancouver | Water | EPA 200.2/6020B (mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |

# QUALITY CONTROL REPORT

| | | | |
|---|---|---|---|
| **Work Order** | : **KS2405199** | Page | : 1 of 3 |
| Client | : Nicola Lakeshore Water Utility Co. Ltd. | Laboratory | : ALS Environmental - Kamloops |
| Contact | : Kevin Rabbitt | Account Manager | : Caitlin Fountain |
| Address | : 105 - 1121 McFarlane Way<br>Merritt BC Canada V1K 1B9 | Address | : 1445 McGill Road, Unit 2B<br>Kamloops, British Columbia Canada V2C 6K7 |
| Telephone | : 250 378 4206 | Telephone | : 250 372 3588 |
| Project | : Arsenic Plant B | Date Samples Received | : 11-Dec-2024 10:06 |
| PO | : ---- | Date Analysis Commenced | : 13-Dec-2024 |
| C-O-C number | : ---- | Issue Date | : 16-Dec-2024 09:14 |
| Sampler | : Jeff Wike, Nikki Fulford | | |
| Site | : Nicola Lakeshore Water Utility | | |
| Quote number | : Nicola Lakeshore Routine Tests | | |
| 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: 1807246)** | | | | | | | | | | | |
| KS2405190-001 | Anonymous | Arsenic, total | 7440-38-2 | E420 | 0.00010 | mg/L | 0.00078 | 0.00076 | 0.00001 | 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: 1807246)** | | | | | | |
| Arsenic, total | 7440-38-2 | E420 | 0.0001 | mg/L | <0.00010 | ---- |

## Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

| | | | | | Laboratory Control Sample (LCS) Report | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Spike | Recovery (%) | Recovery Limits (%) | | |
| Analyte | CAS Number | Method | LOR | Unit | Target Concentration | LCS | Low | High | Qualifier |
| **Total Metals (QCLot: 1807246)** | | | | | | | | | |
| Arsenic, total | 7440-38-2 | E420 | 0.0001 | mg/L | 1 mg/L | 106 | 80.0 | 120 | ---- |

## Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

| | | | | | Matrix Spike (MS) Report | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Spike | | Recovery (%) | Recovery Limits (%) | | |
| Laboratory sample ID | Client sample ID | Analyte | CAS Number | Method | Concentration | Target | MS | Low | High | Qualifier |
| **Total Metals (QCLot: 1807246)** | | | | | | | | | | |
| KS2405190-002 | Anonymous | Arsenic, total | 7440-38-2 | E420 | 0.0198 mg/L | 0.02 mg/L | 98.9 | 70.0 | 130 | ---- |

# Chain of Custody (COC) / Analytical Request Form

ALS Environmental

www.alsglobal.com

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

Affix ALS barcode label here (lab use only)

COC Number: 15 -

Page of

| **Report To** | Contact and company name below will appear on the final report |
|---|---|
| Company: | Nicola Lakeshore Water Utility |
| Contact: | |
| Phone: | 250-378-4176 |
| Company address below will appear on the final report | |
| Street: | 106 1121 McFarlane Way |
| City/Province: | Merritt, BC |
| Postal Code: | V1K 1B9 |
| **Invoice To** | Same as Report To ☑ YES ☒ NO |
| | Copy of Invoice with Report ☑ YES ☐ NO |
| Company: | |
| Contact: | |

| **Report Format / Distribution** | |
|---|---|
| Select Report Format: | ☑ PDF ☐ EXCEL ☐ EDD (DIGITAL) |
| Quality Control (QC) Report with Report | ☐ YES ☐ NO |
| ☐ Compare Results to Criteria on Report - provide details below if box checked | |
| Select Distribution: | ☑ EMAIL ☐ MAIL ☐ FAX |
| Email 1 or Fax | small.companies@emconservices.ca |
| Email 2 | tibar@telus.net, nfulford.nlwu@emconservices.ca |
| Email 3 | katharine.mcnamara@interiorhealth.ca |

| **Invoice Distribution** | |
|---|---|
| Select Invoice Distribution: | ☑ EMAIL ☐ MAIL ☐ FAX |
| Email 1 or Fax | small.companies@emconservices.ca |
| Email 2 | tibar@telus.net |

**Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply**

**Regular [R]** ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

| PRIORITY (Business Days) | | EMERGENCY | |
|---|---|---|---|
| | 4 day [P4] ☐ | | 1 Business day [E1] ☐ |
| | 3 day [P3] ☐ | | Same Day, Weekend or Statutory holiday [E0] ☐ |
| | 2 day [P2] ☐ | | |

Date and Time Required for all E&P TATs:

For tests that can not be performed according to the service level selected, you will be contacted.

| **Project Information** | |
|---|---|
| **ALS Account # / Quote #:** | |
| Job #: | |
| PO / AFE: | |
| LSD: | |
| **ALS Lab Work Order # (lab use only)** | 5199 |

| **Oil and Gas Required Fields (client use)** | |
|---|---|
| AFE/Cost Center: | PO# |
| Major/Minor Code: | Routing Code: |
| Requisitioner: | |
| Location: | |
| **ALS Contact:** | **Sampler:** Jeff Wike, Nikki Fulford |

**Analysis Request**

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

| 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 | Arsenic Only | Number of Containers |
|---|---|---|---|---|---|---|
| | Arsenic Plant Tank B | 11-Dec-24 | 8:20a | Water | X | 1 |
| | | | | | | |
| | | | | | | |
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| | | | | | | |

Environmental Division
Kamloops
Work Order Reference
KS2405199

Telephone : +1 250 372 3588

| **Drinking Water (DW) Samples[1] (client use)** | **Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)** |
|---|---|
| **Are samples taken from a Regulated DW System?** ☐ YES ☐ NO | |
| **Are samples for human drinking water use?** ☑ YES ☐ NO | |

**SAMPLE CONDITION AS RECEIVED (lab use only)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Frozen | ☐ | | SIF Observations | Yes | ☐ | No | ☐ |
| Ice Packs | ☑ | Ice Cubes ☐ | Custody seal intact | Yes | ☐ | No | ☐ |
| Cooling Initiated | ☐ | | | | | | |

| INITIAL COOLER TEMPERATURES °C | | | FINAL COOLER TEMPERATURES °C | | |
|---|---|---|---|---|---|
| 11 | | | | | |

| SHIPMENT RELEASE (client use) | | | INITIAL SHIPMENT RECEPTION (lab use only) | | | FINAL SHIPMENT RECEPTION (lab use only) | | |
|---|---|---|---|---|---|---|---|---|
| Released by: | Date: 11-Dec-24 | Time: | Received by: | Date: DEC 9 9 2024 | Time: 1006 | Received by: | Date: | Time: |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

OCTOBER 2015 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**.