



## CERTIFICATE OF ANALYSIS

**REPORTED TO** First Nations Health Authority (Interior)  
Suite 770 175 2nd Avenue  
Kamloops, BC V2C 5W1

**ATTENTION** Patti Joyce

**PO NUMBER** 0000002803

**PROJECT** Williams Lake : Arsenic

**PROJECT INFO**

**WORK ORDER** 22A2246

**RECEIVED / TEMP** 2022-01-20 08:30 / 15°C

**REPORTED** 2022-01-26 12:29

**COC NUMBER** No #

### Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

#### *Big Picture Sidekicks*



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

#### *We've Got Chemistry*



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

#### *Ahead of the Curve*



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

### Work Order Comments:

Custody Seals Intact: 477

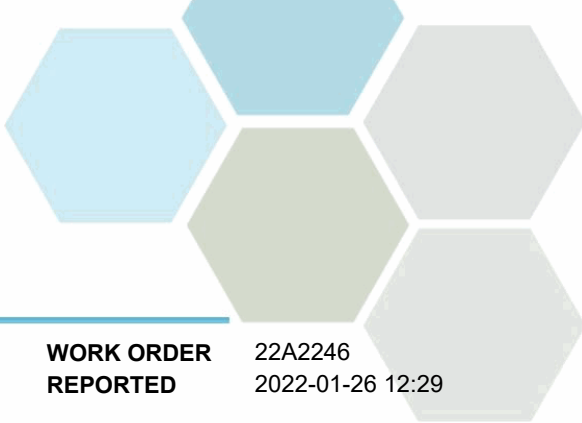
*If you have any questions or concerns, please contact me at [sgulenchyn@caro.ca](mailto:sgulenchyn@caro.ca)*

### Authorized By:

Sara Gulenchyn, B.Sc, P.Chem.  
Client Services Manager

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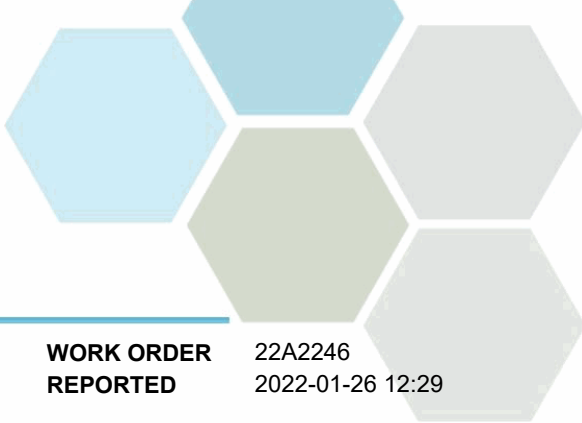


## TEST RESULTS

**REPORTED TO PROJECT** First Nations Health Authority (Interior)  
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Analyte	Result	Guideline	Guideline 2	RL	Units	Analyzed	Qualifier
<b>WLFN New Daycare 477-15464 (22A2246-01)   Matrix: Water   Sampled: 2022-01-18 09:05</b>							
<i>Total Metals</i>							
Arsenic, total	0.00487	MAC = 0.01		0.00050	mg/L	2022-01-26	



## APPENDIX 1: SUPPORTING INFORMATION

**REPORTED TO PROJECT** First Nations Health Authority (Interior)  
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Analysis Description	Method Ref.	Technique	Accredited	Location
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO <sub>3</sub> +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond

### Glossary of Terms:

RL	Reporting Limit (default)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
EPA	United States Environmental Protection Agency Test Methods

### Guidelines Referenced in this Report:

[Guidelines for Canadian Drinking Water Quality \(Health Canada, June 2019\)](#)

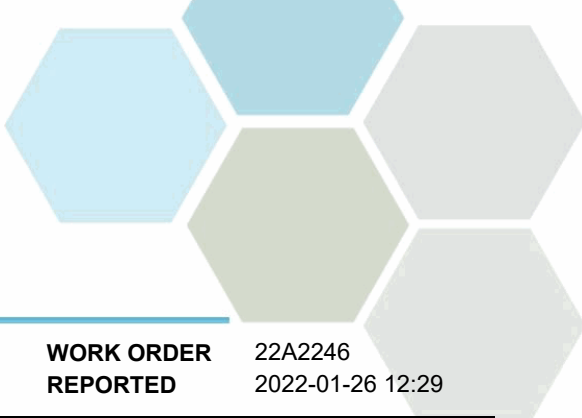
*Note: In some cases, the values displayed on the report represent the lowest guideline and are to be verified by the end user*

### General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: [sgulenchyn@caro.ca](mailto:sgulenchyn@caro.ca)

*Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.*



## APPENDIX 2: QUALITY CONTROL RESULTS

**REPORTED TO** First Nations Health Authority (Interior)  
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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
<b>Total Metals, Batch B2A1853</b>									
<b>Blank (B2A1853-BLK1)</b>			Prepared: 2022-01-23, Analyzed: 2022-01-26						
Arsenic, total	< 0.00050	0.00050 mg/L							
<b>LCS (B2A1853-BS1)</b>			Prepared: 2022-01-23, Analyzed: 2022-01-26						
Arsenic, total	0.0167	0.00050 mg/L	0.0200		83	80-120			
<b>Reference (B2A1853-SRM1)</b>			Prepared: 2022-01-23, Analyzed: 2022-01-26						
Arsenic, total	0.0191	0.00050 mg/L	0.0200		95	70-130			



V6V 2K9  
V1X 5C3  
T5S 1H7

**CHAIN OF CUSTODY RECORD**

COC# [ ] PAGE 1 OF [ ]

RELINQUISHED BY: [Signature] DATE: Jan 18/22 TIME: 9:30am  
 RECEIVED BY: PUPPO TC DATE: 01/22 TIME: 8:30  
 TURNAROUND TIME REQUESTED: \* [ ] Routine: (5-7 Days) [x] [ ] Rush: 1 Day\* [ ] 2 Day\* [ ] 3 Day\* [x]  
 REGULATORY APPLICATION: Show on Report  
 Canadian Drinking Water Quality [x] BC WQG [ ] BC HWR [ ]  
 BC CSR Soil: WL [ ] AL [ ] PL [ ] RL-LD [ ] RL-HD [ ] CL [ ] IL [ ]  
 BC CSR Water: AW [ ] IW [ ] LW [ ] DW [ ]  
 \*Contact Lab To Confirm. Surcharge May Apply  
 PROJECT NUMBER / INFO: WLFN arsenic  
 A: Biohazard D: Asbestos G: Strong Odour  
 B: Cyanide E: Heavy Metals H: High Contamination  
 C: PCBs F: Flammable I: Other (please specify\*)

**REPORT TO:**  
 COMPANY: First Nations Health Authority  
 ADDRESS: Box 4887  
 Williams Lake, BC V2G 2V8  
 CONTACT: Patti Joyce  
 TEL/FAX: 250-296-9136  
 DELIVERY METHOD: EMAIL [x] MAIL [ ] OTHER\* [ ]  
 DATA FORMAT: EXCEL [x] WATERTRAX [ ] ESdat [ ]  
 EQuIS [ ] BC EMS [ ] OTHER\* [x]  
 EMAIL 1: Patti.Joyce@fnha.ca  
 EMAIL 2: casey.neathway@fnha.ca  
 EMAIL 3: bernice.debert@fnha.ca  
 PO #: contract #0000002803

**ANALYSES REQUESTED:**

	BTEX	VOC	EPH	PAH	PHENOLS Chlorinated	Non-Chlor.	PCB	GLYCOLS	HAA	PESTICIDES	ACID HERBICIDES	METALS - WATER TOTAL	Hg	METALS - WATER DISSOLVED	Hg	METALS - SOIL (SALM)	inc. pH	pH	EC	ALK	TSS	VSS	TDS	BOD	COD	TOG	MOG	FECAL COLIFORMS	HPC	TOTAL COLIFORMS	E. coli	ASBESTOS	FNHA Standard Package A (Gen & metals)	FNHA Standard Package B (metals only)	FNHA Standard Package C (THM & HAA)	arsenic	HOLD	POSSIBLE SAMPLE HAZARD CODE(S)			
CLIENT SAMPLE ID: WLFN New Daycare 719-15464																																									
2477 according to compliance 365																																									

\*\* If you would like to sign up for ClientConnect and/or EnviroChain, CARO's online service offerings, please check here: [x]

SAMPLED BY: [ ]

CLIENT SAMPLE ID:	MATRIX:				CONTAINER QTY	SAMPLING:		COMMENTS:			
	DRINKING WATER	OTHER WATER	SOIL	OTHER		DATE	TIME	CHLORINATED	FILTERED	PRESERVED	
WLFN New Daycare 719-15464					1	2022-01-18	09:05		✓	✓	(e.g. flow/volume media ID/notes)

**SHIPPING INSTRUCTIONS:** Return Cooler(s) [ ] Supplies Needed: [ ]  
**SAMPLE RETENTION:** 30 Days (default) [ ] 60 Days [ ] 90 Days [ ] Other (surcharges will apply): [ ]  
**\* OTHER INSTRUCTIONS:** 3 day Rush  
**SAMPLE RECEIPT CONDITION:**  
 COOLER 1 (°C): 14.6 ICE: Y [ ] N [ ]  
 COOLER 2 (°C): ICE: Y [ ] N [ ]  
 COOLER 3 (°C): ICE: Y [ ] N [ ]  
 CUSTODY SEALS INTACT: NA [ ] Y [ ] N [ ]  
 If you would like to talk to a real live Scientist about your project requirements, please check here: [ ]