CERTIFICATE OF ANALYSIS

REPORTED TO	Salmo, Village of Box 1000 Salmo, BC V0G 1Z0		
ATTENTION	Fred Paton	**WORK ORDER**	24L2100
PO NUMBER		**RECEIVED / TEMP**	2024-12-18 09:37 / 6.3°C
PROJECT	Essential Drinking Water Test Kit	**REPORTED**	2024-12-27 09:29
PROJECT INFO		**COC NUMBER**	No Number

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: -

By engaging our services, you are agreeing to CARO Analytical Service's Standard Terms and Conditions outlined here: https://www.caro.ca/terms-conditions

If you have any questions or concerns, please contact me at TeamCaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Salmo, Village of	**WORK ORDER**	24L2100
PROJECT	Essential Drinking Water Test Kit	**REPORTED**	2024-12-27 09:29

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Village Of Salmo Public Works Shop (24L2100-01) | Matrix: Water | Sampled: 2024-12-17 10:00						
Anions						
Chloride	**2.87**	AO ≤ 250	0.10	mg/L	2024-12-19	
Fluoride	< 0.10	MAC = 1.5	0.10	mg/L	2024-12-19	
Nitrate (as N)	**0.142**	MAC = 10	0.010	mg/L	2024-12-19	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2024-12-19	
Sulfate	**11.7**	AO ≤ 500	1.0	mg/L	2024-12-19	
Calculated Parameters						
Hardness, Total (as CaCO3)	**91.8**	None Required	0.500	mg/L	N/A	
Solids, Total Dissolved	**102**	AO ≤ 500	1.00	mg/L	N/A	
General Parameters						
Alkalinity, Total (as CaCO3)	**77.8**	N/A	1.0	mg/L	2024-12-19	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2024-12-19	
Alkalinity, Bicarbonate (as CaCO3)	**77.8**	N/A	1.0	mg/L	2024-12-19	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2024-12-19	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2024-12-19	
Conductivity (EC)	**200**	N/A	2.0	µS/cm	2024-12-19	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2024-12-20	
pH	**7.66**	7.0-10.5	0.10	pH units	2024-12-19	HT2
Turbidity	**0.11**	OG < 1	0.10	NTU	2024-12-19	
Microbiological Parameters						
Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2024-12-18	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2024-12-18	
Total Metals						
Aluminum, total	< 0.0050	OG < 0.1	0.0050	mg/L	2024-12-20	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2024-12-20	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2024-12-20	
Barium, total	**0.0217**	MAC = 2	0.0050	mg/L	2024-12-20	
Boron, total	< 0.0500	MAC = 5	0.0500	mg/L	2024-12-20	
Cadmium, total	**0.000018**	MAC = 0.007	0.000010	mg/L	2024-12-20	
Calcium, total	**31.4**	None Required	0.20	mg/L	2024-12-20	
Chromium, total	**0.00095**	MAC = 0.05	0.00050	mg/L	2024-12-20	
Copper, total	**0.0399**	MAC = 2	0.00040	mg/L	2024-12-20	
Iron, total	< 0.010	AO ≤ 0.3	0.010	mg/L	2024-12-20	
Lead, total	**0.00029**	MAC = 0.005	0.00020	mg/L	2024-12-20	
Magnesium, total	**3.25**	None Required	0.010	mg/L	2024-12-20	
Manganese, total	**0.00024**	MAC = 0.12	0.00020	mg/L	2024-12-20	
Potassium, total	**1.37**	N/A	0.10	mg/L	2024-12-20	
Selenium, total	**0.00065**	MAC = 0.05	0.00050	mg/L	2024-12-20	
Sodium, total	**2.85**	AO ≤ 200	0.10	mg/L	2024-12-20	
Strontium, total	**0.150**	MAC = 7	0.0010	mg/L	2024-12-20	
Uranium, total	**0.000882**	MAC = 0.02	0.000020	mg/L	2024-12-20	

TEST RESULTS

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Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Village Of Salmo Public Works Shop (24L2100-01) | Matrix: Water | Sampled: 2024-12-17 10:00, Continued						
Total Metals, Continued						
Zinc, total	**0.0069**	AO ≤ 5	0.0040	mg/L	2024-12-20	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Salmo, Village of	**WORK ORDER**	24L2100
PROJECT	Essential Drinking Water Test Kit	**REPORTED**	2024-12-27 09:29

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2021)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2020)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2015)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Conductivity in Water	SM 2510 B (2021)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	✓	Kelowna
E. coli in Water	SM 9222* (2015)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
pH in Water	SM 4500-H+ B (2021)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2021)	SM 1030 E		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2020)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, ph > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

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REPORTED TO	Salmo, Village of	**WORK ORDER**	24L2100
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General Comments:

The results in this report apply to the received 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

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: TeamCaro@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	Salmo, Village of	**WORK ORDER**	24L2100
PROJECT	Essential Drinking Water Test Kit	**REPORTED**	2024-12-27 09:29

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
Anions, Batch B4L3099										
Blank (B4L3099-BLK1)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
Chloride	< 0.10	0.10	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Sulfate	< 1.0	1.0	mg/L							
LCS (B4L3099-BS1)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
Chloride	15.8	0.10	mg/L	16.0		99	90-110			
Fluoride	3.96	0.10	mg/L	4.00		99	88-108			
Nitrate (as N)	4.08	0.010	mg/L	4.00		102	90-110			
Nitrite (as N)	2.05	0.010	mg/L	2.00		103	85-115			
Sulfate	16.0	1.0	mg/L	16.0		100	90-110			
Duplicate (B4L3099-DUP1)			**Source: 24L2100-01**	Prepared: 2024-12-19, Analyzed: 2024-12-19						
Chloride	2.81	0.10	mg/L		2.87			2	10	
Fluoride	< 0.10	0.10	mg/L		< 0.10				10	
Nitrate (as N)	0.146	0.010	mg/L		0.142			3	10	
Nitrite (as N)	< 0.010	0.010	mg/L		< 0.010				15	
Sulfate	12.3	1.0	mg/L		11.7			5	10	
Matrix Spike (B4L3099-MS1)			**Source: 24L2100-01**	Prepared: 2024-12-19, Analyzed: 2024-12-19						
Chloride	19.5	0.10	mg/L	16.0	2.87	104	75-125			
Fluoride	4.06	0.10	mg/L	4.00	< 0.10	101	75-125			
Nitrate (as N)	4.10	0.010	mg/L	4.00	0.142	99	75-125			
Nitrite (as N)	1.96	0.010	mg/L	2.00	< 0.010	98	75-115			
Sulfate	28.1	1.0	mg/L	16.0	11.7	102	75-125			
General Parameters, Batch B4L3186										
Blank (B4L3186-BLK1)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Salmo, Village of	**WORK ORDER**	24L2100
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Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B4L3186, Continued										
Blank (B4L3186-BLK2)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
LCS (B4L3186-BS1)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
Alkalinity, Total (as CaCO3)	88.4	1.0	mg/L	100		88	80-120			
Alkalinity, Phenolphthalein (as CaCO3)	30.1	1.0	mg/L	50.0		60	0-200			
LCS (B4L3186-BS2)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
Conductivity (EC)	1410	2.0	µS/cm	1410		100	95-105			
LCS (B4L3186-BS3)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
Alkalinity, Total (as CaCO3)	89.3	1.0	mg/L	100		89	80-120			
Alkalinity, Phenolphthalein (as CaCO3)	28.2	1.0	mg/L	50.0		56	0-200			
LCS (B4L3186-BS4)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
Conductivity (EC)	1410	2.0	µS/cm	1410		100	95-105			
Duplicate (B4L3186-DUP2)		**Source: 24L2100-01**		Prepared: 2024-12-19, Analyzed: 2024-12-19						
Alkalinity, Total (as CaCO3)	77.2	1.0	mg/L		77.8			< 1	10	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L		< 1.0				10	
Alkalinity, Bicarbonate (as CaCO3)	77.2	1.0	mg/L		77.8			< 1	10	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L		< 1.0				10	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L		< 1.0				10	
Conductivity (EC)	200	2.0	µS/cm		200			< 1	5	
pH	7.47	0.10	pH units		7.66			3	4	
Reference (B4L3186-SRM1)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
pH	7.02	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B4L3196										
Blank (B4L3196-BLK1)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
Turbidity	< 0.10	0.10	NTU							
LCS (B4L3196-BS1)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
Turbidity	15.8	0.10	NTU	14.6		108	90-110			
General Parameters, Batch B4L3292										
Blank (B4L3292-BLK1)				Prepared: 2024-12-20, Analyzed: 2024-12-20						
Cyanide, Total	< 0.0020	0.0020	mg/L							
Blank (B4L3292-BLK2)				Prepared: 2024-12-20, Analyzed: 2024-12-20						
Cyanide, Total	< 0.0020	0.0020	mg/L							
LCS (B4L3292-BS1)				Prepared: 2024-12-20, Analyzed: 2024-12-20						
Cyanide, Total	0.0223	0.0020	mg/L	0.0200		112	82-120			
LCS (B4L3292-BS2)				Prepared: 2024-12-20, Analyzed: 2024-12-20						
Cyanide, Total	0.0189	0.0020	mg/L	0.0200		94	82-120			
LCS Dup (B4L3292-BSD1)				Prepared: 2024-12-20, Analyzed: 2024-12-20						
Cyanide, Total	0.0216	0.0020	mg/L	0.0200		108	82-120	3	10	

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Salmo, Village of	**WORK ORDER**	24L2100
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Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B4L3292, Continued										
LCS Dup (B4L3292-BSD2)				Prepared: 2024-12-20, Analyzed: 2024-12-20						
Cyanide, Total	0.0208	0.0020	mg/L	0.0200		104	82-120	9	10	
Microbiological Parameters, Batch B4L3106										
Blank (B4L3106-BLK1)				Prepared: 2024-12-18, Analyzed: 2024-12-18						
Coliforms, Total	< 1	1	CFU/100 mL							
E. coli	< 1	1	CFU/100 mL							
Blank (B4L3106-BLK2)				Prepared: 2024-12-18, Analyzed: 2024-12-18						
Coliforms, Total	< 1	1	CFU/100 mL							
E. coli	< 1	1	CFU/100 mL							
Blank (B4L3106-BLK3)				Prepared: 2024-12-18, Analyzed: 2024-12-18						
Coliforms, Total	< 1	1	CFU/100 mL							
E. coli	< 1	1	CFU/100 mL							
Blank (B4L3106-BLK4)				Prepared: 2024-12-18, Analyzed: 2024-12-18						
Coliforms, Total	< 1	1	CFU/100 mL							
E. coli	< 1	1	CFU/100 mL							
Blank (B4L3106-BLK5)				Prepared: 2024-12-18, Analyzed: 2024-12-18						
Coliforms, Total	< 1	1	CFU/100 mL							
E. coli	< 1	1	CFU/100 mL							
Blank (B4L3106-BLK6)				Prepared: 2024-12-18, Analyzed: 2024-12-18						
Coliforms, Total	< 1	1	CFU/100 mL							
E. coli	< 1	1	CFU/100 mL							
Blank (B4L3106-BLK7)				Prepared: 2024-12-19, Analyzed: 2024-12-19						
Coliforms, Total	< 1	1	CFU/100 mL							
E. coli	< 1	1	CFU/100 mL							
Total Metals, Batch B4L3379										
Blank (B4L3379-BLK1)				Prepared: 2024-12-20, Analyzed: 2024-12-20						
Aluminum, total	< 0.0050	0.0050	mg/L							
Antimony, total	< 0.00020	0.00020	mg/L							
Arsenic, total	< 0.00050	0.00050	mg/L							
Barium, total	< 0.0050	0.0050	mg/L							
Boron, total	< 0.0500	0.0500	mg/L							
Cadmium, total	< 0.000010	0.000010	mg/L							
Calcium, total	< 0.20	0.20	mg/L							
Chromium, total	< 0.00050	0.00050	mg/L							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							

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PROJECT	Essential Drinking Water Test Kit	**REPORTED**	2024-12-27 09:29

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B4L3379, Continued										
LCS (B4L3379-BS1)				Prepared: 2024-12-20, Analyzed: 2024-12-20						
Aluminum, total	3.89	0.0050	mg/L	4.00		97	80-120			
Antimony, total	0.0380	0.00020	mg/L	0.0400		95	80-120			
Arsenic, total	0.389	0.00050	mg/L	0.400		97	80-120			
Barium, total	0.0395	0.0050	mg/L	0.0400		99	80-120			
Boron, total	0.395	0.0500	mg/L	0.400		99	80-120			
Cadmium, total	0.0389	0.000010	mg/L	0.0400		97	80-120			
Calcium, total	4.07	0.20	mg/L	4.00		102	80-120			
Chromium, total	0.0395	0.00050	mg/L	0.0400		99	80-120			
Copper, total	0.0394	0.00040	mg/L	0.0400		98	80-120			
Iron, total	3.92	0.010	mg/L	4.00		98	80-120			
Lead, total	0.0396	0.00020	mg/L	0.0400		99	80-120			
Magnesium, total	3.90	0.010	mg/L	4.00		97	80-120			
Manganese, total	0.0398	0.00020	mg/L	0.0400		99	80-120			
Potassium, total	4.00	0.10	mg/L	4.00		100	80-120			
Selenium, total	0.386	0.00050	mg/L	0.400		97	80-120			
Sodium, total	3.90	0.10	mg/L	4.00		98	80-120			
Strontium, total	0.0394	0.0010	mg/L	0.0400		98	80-120			
Uranium, total	0.0396	0.000020	mg/L	0.0400		99	80-120			
Zinc, total	0.383	0.0040	mg/L	0.400		96	80-120			