

CERTIFICATE OF ANALYSIS

REPORTED TO Glenwood, Village of
59 Main Ave
Glenwood, AB T0K 2R0

ATTENTION Derek McCarthy

PO NUMBER

PROJECT Water testing

PROJECT INFO

WORK ORDER 26G3062

RECEIVED / TEMP 2026-07-23 09:50 / 23.3°C

REPORTED 2026-07-30 11:50

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.

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 hhannaoui@caro.ca

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TEST RESULTS

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Water testing

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Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Glenwood - Church (26G3062-01) Matrix: Water Sampled: 2026-07-21 08:00						
Calculated Parameters						
Total Trihalomethanes	< 0.00400	MAC = 0.1	0.00400	mg/L	N/A	
Hardness, Total (as CaCO3)	158	None Required	0.500	mg/L	N/A	
Total Metals						
Aluminum, total	< 0.0050	OG < 0.1	0.0050	mg/L	2026-07-25	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2026-07-25	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2026-07-25	
Barium, total	0.0735	MAC = 2	0.0050	mg/L	2026-07-25	
Beryllium, total	< 0.00010	N/A	0.00010	mg/L	2026-07-25	
Bismuth, total	< 0.00010	N/A	0.00010	mg/L	2026-07-25	
Boron, total	< 0.0500	MAC = 5	0.0500	mg/L	2026-07-25	
Cadmium, total	< 0.000010	MAC = 0.007	0.000010	mg/L	2026-07-25	
Calcium, total	35.6	None Required	0.20	mg/L	2026-07-25	
Chromium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2026-07-25	
Cobalt, total	< 0.00010	N/A	0.00010	mg/L	2026-07-25	
Copper, total	0.0114	MAC = 2	0.00040	mg/L	2026-07-25	
Iron, total	< 0.010	AO ≤ 0.1	0.010	mg/L	2026-07-25	
Lead, total	0.00042	MAC = 0.005	0.00020	mg/L	2026-07-25	
Lithium, total	0.00658	N/A	0.00010	mg/L	2026-07-25	
Magnesium, total	16.8	None Required	0.010	mg/L	2026-07-25	
Manganese, total	0.00030	MAC = 0.12	0.00020	mg/L	2026-07-25	
Molybdenum, total	0.00198	N/A	0.00010	mg/L	2026-07-25	
Nickel, total	< 0.00040	N/A	0.00040	mg/L	2026-07-25	
Phosphorus, total	< 0.050	N/A	0.050	mg/L	2026-07-25	
Potassium, total	1.13	N/A	0.10	mg/L	2026-07-25	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2026-07-25	
Silicon, total	4.7	N/A	1.0	mg/L	2026-07-25	
Silver, total	< 0.000050	None Required	0.000050	mg/L	2026-07-25	
Sodium, total	17.7	AO ≤ 200	0.10	mg/L	2026-07-25	
Strontium, total	0.320	MAC = 7	0.0010	mg/L	2026-07-25	
Sulfur, total	7.3	N/A	3.0	mg/L	2026-07-25	
Tellurium, total	< 0.00050	N/A	0.00050	mg/L	2026-07-25	
Thallium, total	< 0.000020	N/A	0.000020	mg/L	2026-07-25	
Thorium, total	< 0.00010	N/A	0.00010	mg/L	2026-07-25	
Tin, total	< 0.00020	N/A	0.00020	mg/L	2026-07-25	
Titanium, total	< 0.0050	N/A	0.0050	mg/L	2026-07-25	
Tungsten, total	< 0.0010	N/A	0.0010	mg/L	2026-07-25	
Uranium, total	0.00150	MAC = 0.02	0.000020	mg/L	2026-07-25	
Vanadium, total	< 0.0050	N/A	0.0050	mg/L	2026-07-25	
Zinc, total	< 0.0040	AO ≤ 5	0.0040	mg/L	2026-07-25	
Zirconium, total	< 0.00010	N/A	0.00010	mg/L	2026-07-25	
Volatile Organic Compounds (VOC)						
Bromodichloromethane	< 0.0010	N/A	0.0010	mg/L	2026-07-28	



TEST RESULTS

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Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Glenwood - Church (26G3062-01) Matrix: Water Sampled: 2026-07-21 08:00, Continued						
Volatile Organic Compounds (VOC), Continued						
Bromoform	< 0.0010	N/A	0.0010	mg/L	2026-07-28	
Chloroform	0.0014	N/A	0.0010	mg/L	2026-07-28	
Dibromochloromethane	< 0.0010	N/A	0.0010	mg/L	2026-07-28	
Surrogate: Toluene-d8	104		70-130	%	2026-07-28	
Surrogate: 4-Bromofluorobenzene	98		70-130	%	2026-07-28	

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Glenwood, Village of
Water testing

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Analysis Description	Method Ref.	Technique	Accredited	Location
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Trihalomethanes in Water	EPA 5030B / EPA 8260D	Purge&Trap / GC-MSD (SIM)	✓	Edmonton

Note: An asterisk in the Method Reference indicates that the 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
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
OG	Operational Guideline (treated water)
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

Guidelines Referenced in this Report:

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

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 samples received by CARO and analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety and must not be modified. CARO is not responsible for losses or damages resulting directly or indirectly from errors or omissions in the conduct of the testing. Any 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. Results in **red** indicate values above the regulatory limits where these have been included. 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: hannaoui@caro.ca

Regulatory limits are added to test reports on request and are as a convenience only. While CARO makes every effort to ensure accuracy of regulatory limits, CARO assumes no liability for the use of this information. It remains the client's responsibility to ensure that regulatory limits are correct for their circumstances.

APPENDIX 2: QUALITY CONTROL RESULTS

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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
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Total Metals, Batch B6G4433

Blank (B6G4433-BLK1)			Prepared: 2026-07-24, Analyzed: 2026-07-25						
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							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 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							
Cobalt, total	< 0.00010	0.00010 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							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0010	0.0010 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0050	0.0050 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B6G4433, Continued

Blank (B6G4433-BLK1), Continued

Prepared: 2026-07-24, Analyzed: 2026-07-25

Zirconium, total	< 0.00010	0.00010 mg/L							
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LCS (B6G4433-BS1)

Prepared: 2026-07-24, Analyzed: 2026-07-25

Aluminum, total	3.81	0.0050 mg/L	4.00		95	80-120			
Antimony, total	0.0402	0.00020 mg/L	0.0400		100	80-120			
Arsenic, total	0.391	0.00050 mg/L	0.400		98	80-120			
Barium, total	0.0393	0.0050 mg/L	0.0400		98	80-120			
Beryllium, total	0.0390	0.00010 mg/L	0.0400		98	80-120			
Bismuth, total	0.0399	0.00010 mg/L	0.0400		100	80-120			
Boron, total	0.415	0.0500 mg/L	0.400		104	80-120			
Cadmium, total	0.0403	0.000010 mg/L	0.0400		101	80-120			
Calcium, total	4.03	0.20 mg/L	4.00		101	80-120			
Chromium, total	0.0388	0.00050 mg/L	0.0400		97	80-120			
Cobalt, total	0.0391	0.00010 mg/L	0.0400		98	80-120			
Copper, total	0.0388	0.00040 mg/L	0.0400		97	80-120			
Iron, total	3.94	0.010 mg/L	4.00		99	80-120			
Lead, total	0.0399	0.00020 mg/L	0.0400		100	80-120			
Lithium, total	0.0378	0.00010 mg/L	0.0400		95	80-120			
Magnesium, total	3.85	0.010 mg/L	4.00		96	80-120			
Manganese, total	0.0392	0.00020 mg/L	0.0400		98	80-120			
Molybdenum, total	0.0402	0.00010 mg/L	0.0400		100	80-120			
Nickel, total	0.0394	0.00040 mg/L	0.0400		99	80-120			
Phosphorus, total	3.83	0.050 mg/L	4.00		96	80-120			
Potassium, total	3.78	0.10 mg/L	4.00		95	80-120			
Selenium, total	0.404	0.00050 mg/L	0.400		101	80-120			
Silicon, total	3.9	1.0 mg/L	4.00		98	80-120			
Silver, total	0.0407	0.000050 mg/L	0.0400		102	80-120			
Sodium, total	3.98	0.10 mg/L	4.00		100	80-120			
Strontium, total	0.0401	0.0010 mg/L	0.0400		100	80-120			
Sulfur, total	39.0	3.0 mg/L	40.0		98	80-120			
Tellurium, total	0.0382	0.00050 mg/L	0.0400		95	80-120			
Thallium, total	0.0391	0.000020 mg/L	0.0400		98	80-120			
Thorium, total	0.0404	0.00010 mg/L	0.0400		101	80-120			
Tin, total	0.0411	0.00020 mg/L	0.0400		103	80-120			
Titanium, total	0.0387	0.0050 mg/L	0.0400		97	80-120			
Tungsten, total	0.0400	0.0010 mg/L	0.0400		100	80-120			
Uranium, total	0.0402	0.000020 mg/L	0.0400		101	80-120			
Vanadium, total	0.0395	0.0050 mg/L	0.0400		99	80-120			
Zinc, total	0.390	0.0040 mg/L	0.400		98	80-120			
Zirconium, total	0.0401	0.00010 mg/L	0.0400		100	80-120			

Volatile Organic Compounds (VOC), Batch B6G4667

Blank (B6G4667-BLK1)

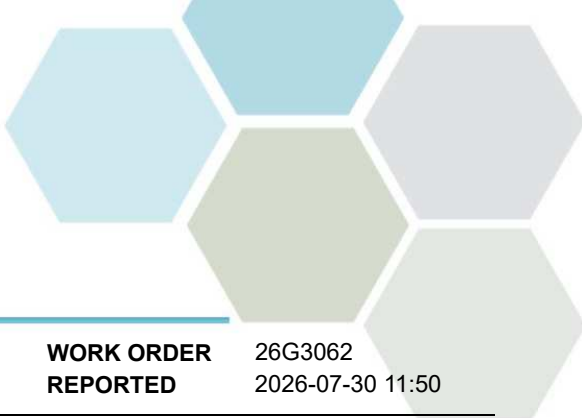
Prepared: 2026-07-28, Analyzed: 2026-07-28

Bromodichloromethane	< 0.0010	0.0010 mg/L							
Bromoform	< 0.0010	0.0010 mg/L							
Chloroform	< 0.0010	0.0010 mg/L							
Dibromochloromethane	< 0.0010	0.0010 mg/L							
Surrogate: Toluene-d8	0.0186	mg/L	0.0199		93	70-130			
Surrogate: 4-Bromofluorobenzene	0.0182	mg/L	0.0199		92	70-130			

LCS (B6G4667-BS1)

Prepared: 2026-07-28, Analyzed: 2026-07-28

Bromodichloromethane	0.0208	0.0010 mg/L	0.0201		103	70-130			
Bromoform	0.0193	0.0010 mg/L	0.0201		96	70-130			
Chloroform	0.0210	0.0010 mg/L	0.0201		105	70-130			
Dibromochloromethane	0.0216	0.0010 mg/L	0.0201		107	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT					WORK ORDER REPORTED				
Glenwood, Village of Water testing					26G3062 2026-07-30 11:50				
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds (VOC), Batch B6G4667, Continued									
LCS (B6G4667-BS1), Continued					Prepared: 2026-07-28, Analyzed: 2026-07-28				
Surrogate: Toluene-d8	0.0190	mg/L	0.0199		95	70-130			
Surrogate: 4-Bromofluorobenzene	0.0199	mg/L	0.0199		100	70-130			