



CERTIFICATE OF ANALYSIS

Work Order	: WT2526220	Laboratory	: ALS Environmental - Waterloo
Client	: Defence Construction Canada	Account Manager	: Andrew Martin
Contact	: Cameron Chadwick	Address	: 60 Northland Road, Unit 1
Address	: 8 Wing / CFB Trenton 14 Alert Boulevard Astra Ontario Canada K0K 3W0		: Waterloo ON Canada N2V 2B8
Telephone	: 613 392 2811 ext 5491	E-mail	: andrew.martin@alsglobal.com
Project	: TR23ENV9 SC80739	Telephone	: +1 519 886 6910
PO	: ----	Date Samples Received	: 18-Sep-2025 09:00
C-O-C number	: ----	Date Analysis Commenced	: 18-Sep-2025
Sampler	: AT, KV	Issue Date	: 24-Sep-2025 20:38
Site	: CFS Alert		
Quote number	: WT23-DOND200-3		
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

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>
Hannah Lewis	Inorganics Analyst	Inorganics, Waterloo, Ontario
Jeminikumari Patel	Analyst	Microbiology, Waterloo, Ontario
Nik Perkio	Senior Analyst	Metals, Waterloo, Ontario
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
Rachel Cameron	Supervisor - Semi-Volatile Extractions	Organics, Waterloo, Ontario

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).

<i>Unit</i>	<i>Description</i>
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
pH units	pH units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre

<: 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.

Qualifiers

<i>Qualifier</i>	<i>Description</i>
NDOGFC	No Data Due to Thermotolerant (fecal) coliform Overgrown
PEHR	Parameter exceeded recommended holding time on receipt: Proceeded with analysis as requested.



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	ALT- 3 ----	ALT- 2 ----	----	----	----
					Client sampling date / time	30-Aug-2025 09:05	30-Aug-2025 08:40	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2526220-001	WT2526220-002	----	----	----	
					Result	Result	----	----	----	
Physical Tests										
Conductivity	----	E100/WT	2.0	µS/cm	404	458	----	----	----	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WT	0.50	mg/L	141	108	----	----	----	
pH	----	E108/WT	0.10	pH units	7.80	7.90	----	----	----	
Solids, total suspended [TSS]	----	E160/WT	3.0	mg/L	111	38.2	----	----	----	
Alkalinity, total (as CaCO3)	----	E290/WT	2.0	mg/L	158	161	----	----	----	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L	8.39	3.62	----	----	----	
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L	19.5	31.6	----	----	----	
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L	<0.020	<0.020	----	----	----	
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L	<0.010	0.032	----	----	----	
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L	6.02	6.95	----	----	----	
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/WT	0.50	mg/L	29.8	48.0	----	----	----	
Microbiological Tests										
Coliforms, thermotolerant [fecal]	----	E012.FC/WT	1	CFU/100 mL	NR <small>PEHR, NDOG, FC</small>	NR <small>PEHR, NDOGF, C</small>	----	----	----	
Total Metals										
Aluminum, total	7429-90-5	E420/WT	0.0030	mg/L	0.883	0.108	----	----	----	
Arsenic, total	7440-38-2	E420/WT	0.00010	mg/L	0.00264	0.00040	----	----	----	
Cadmium, total	7440-43-9	E420/WT	0.0000050	mg/L	0.0000471	0.0000484	----	----	----	
Calcium, total	7440-70-2	E420/WT	0.050	mg/L	44.4	33.9	----	----	----	
Chromium, total	7440-47-3	E420/WT	0.00050	mg/L	0.00221	0.00055	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	ALT- 3 ----	ALT- 2 ----	----	----	----
					Client sampling date / time	30-Aug-2025 09:05	30-Aug-2025 08:40	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2526220-001	WT2526220-002	----	----	----	
					Result	Result	----	----	----	
Total Metals										
Copper, total	7440-50-8	E420/WT	0.00050	mg/L	0.0809	0.0999	----	----	----	
Iron, total	7439-89-6	E420/WT	0.010	mg/L	2.37	0.162	----	----	----	
Lead, total	7439-92-1	E420/WT	0.050	µg/L	1.97	0.878	----	----	----	
Magnesium, total	7439-95-4	E420/WT	0.0050	mg/L	7.40	5.61	----	----	----	
Mercury, total	7439-97-6	E508/WT	0.0000050	mg/L	0.0000058	0.0000055	----	----	----	
Nickel, total	7440-02-0	E420/WT	0.00050	mg/L	0.00607	0.00115	----	----	----	
Potassium, total	7440-09-7	E420/WT	0.050	mg/L	4.24	4.01	----	----	----	
Silver, total	7440-22-4	E420/WT	0.000010	mg/L	0.000029	0.000035	----	----	----	
Sodium, total	7440-23-5	E420/WT	0.050	mg/L	15.8	29.8	----	----	----	
Zinc, total	7440-66-6	E420/WT	0.0030	mg/L	0.0248	0.0342	----	----	----	
Aggregate Organics										
Biochemical oxygen demand [BOD]	----	E550/WT	2.0	mg/L	30.1 ^{PEHR}	30.0 ^{PEHR}	----	----	----	
Oil & grease (gravimetric)	----	E567/WT	5.0	mg/L	12.6	23.0	----	----	----	
Oil & grease, animal/vegetable (gravimetric)	----	EC567A.SG/WT	5.0	mg/L	12.6	23.0	----	----	----	
Oil & grease, mineral (gravimetric)	----	E567SG/WT	5.0	mg/L	<5.0	<5.0	----	----	----	
Phenols, total (4AAP)	----	E562/WT	0.0010	mg/L	0.0045	0.0036	----	----	----	

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



QUALITY CONTROL INTERPRETIVE REPORT

<p>Work Order : WT2526220</p> <p>Client : Defence Construction Canada</p> <p>Contact : Cameron Chadwick</p> <p>Address : 8 Wing / CFB Trenton 14 Alert Boulevard Astra ON Canada K0K 3W0</p> <p>Telephone : 613 392 2811 ext 5491</p> <p>Project : TR23ENV9 SC80739</p> <p>PO : ----</p> <p>C-O-C number : ----</p> <p>Sampler : AT, KV</p> <p>Site : CFS Alert</p> <p>Quote number : WT23-DOND200-3</p> <p>No. of samples received : 2</p> <p>No. of samples analysed : 2</p>	<p>Page : 1 of 12</p> <p>Laboratory : ALS Environmental - Waterloo</p> <p>Account Manager : Andrew Martin</p> <p>Address : 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8</p> <p>Telephone : +1 519 886 6910</p> <p>Date Samples Received : 18-Sep-2025 09:00</p> <p>Issue Date : 24-Sep-2025 20:38</p>
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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)

- Analysis Holding Time Outliers exist - please see following pages for full details.

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 : 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	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] ALT- 2	E550	30-Aug-2025	----	----	----		18-Sep-2025	4 days	19 days	* EHTR
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] ALT- 3	E550	30-Aug-2025	----	----	----		18-Sep-2025	4 days	19 days	* EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ALT- 2	E567SG	30-Aug-2025	23-Sep-2025	28 days	25 days	✓	24-Sep-2025	28 days	25 days	✓
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ALT- 3	E567SG	30-Aug-2025	23-Sep-2025	28 days	25 days	✓	24-Sep-2025	28 days	25 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ALT- 2	E567	30-Aug-2025	23-Sep-2025	28 days	25 days	✓	24-Sep-2025	28 days	25 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ALT- 3	E567	30-Aug-2025	23-Sep-2025	28 days	25 days	✓	24-Sep-2025	28 days	25 days	✓
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid) [ON MECP] ALT- 2	E562	30-Aug-2025	19-Sep-2025	28 days	20 days	✓	22-Sep-2025	28 days	20 days	✓



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		
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] ALT- 3	E562	30-Aug-2025	19-Sep-2025	28 days	20 days	✓	22-Sep-2025	28 days	20 days	✓	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] ALT- 2	E298	30-Aug-2025	19-Sep-2025	28 days	20 days	✓	22-Sep-2025	28 days	20 days	✓	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] ALT- 3	E298	30-Aug-2025	19-Sep-2025	28 days	20 days	✓	22-Sep-2025	28 days	20 days	✓	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] ALT- 2	E235.Cl	30-Aug-2025	19-Sep-2025	28 days	20 days	✓	22-Sep-2025	28 days	20 days	✓	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] ALT- 3	E235.Cl	30-Aug-2025	19-Sep-2025	28 days	20 days	✓	22-Sep-2025	28 days	20 days	✓	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] ALT- 2	E235.NO3	30-Aug-2025	19-Sep-2025	7 days	20 days	* EHTR	22-Sep-2025	7 days	20 days	* EHTR	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] ALT- 3	E235.NO3	30-Aug-2025	19-Sep-2025	7 days	20 days	* EHTR	22-Sep-2025	7 days	20 days	* EHTR	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] ALT- 2	E235.NO2	30-Aug-2025	19-Sep-2025	7 days	20 days	* EHTR	22-Sep-2025	7 days	20 days	* EHTR	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] ALT- 3	E235.NO2	30-Aug-2025	19-Sep-2025	7 days	20 days	* EHTR	22-Sep-2025	7 days	20 days	* EHTR	



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		
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] ALT- 2	E235.SO4	30-Aug-2025	19-Sep-2025	28 days	20 days	✓	22-Sep-2025	28 days	20 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] ALT- 3	E235.SO4	30-Aug-2025	19-Sep-2025	28 days	20 days	✓	22-Sep-2025	28 days	20 days	✓	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)											
Sterile HDPE (sodium thiosulfate) [ON MECP] ALT- 2	E012.FC	30-Aug-2025	----	----	----		18-Sep-2025	48 hrs	463 hrs	* EHTR	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)											
Sterile HDPE (sodium thiosulfate) [ON MECP] ALT- 3	E012.FC	30-Aug-2025	----	----	----		18-Sep-2025	48 hrs	463 hrs	* EHTR	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] ALT- 2	E355-L	30-Aug-2025	20-Sep-2025	28 days	21 days	✓	22-Sep-2025	28 days	21 days	✓	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] ALT- 3	E355-L	30-Aug-2025	20-Sep-2025	28 days	21 days	✓	22-Sep-2025	28 days	21 days	✓	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] ALT- 2	E290	30-Aug-2025	19-Sep-2025	14 days	20 days	* EHTR	20-Sep-2025	14 days	20 days	* EHTR	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] ALT- 3	E290	30-Aug-2025	19-Sep-2025	14 days	20 days	* EHTR	20-Sep-2025	14 days	20 days	* EHTR	
Physical Tests : Conductivity in Water											
HDPE [ON MECP] ALT- 2	E100	30-Aug-2025	19-Sep-2025	28 days	20 days	✓	20-Sep-2025	28 days	20 days	✓	



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	
Physical Tests : Conductivity in Water										
HDPE [ON MECP] ALT- 3	E100	30-Aug-2025	19-Sep-2025	28 days	20 days	✓	20-Sep-2025	28 days	20 days	✓
Physical Tests : pH by Meter										
HDPE [ON MECP] ALT- 2	E108	30-Aug-2025	19-Sep-2025	14 days	20 days	* EHTR	20-Sep-2025	14 days	20 days	* EHTR
Physical Tests : pH by Meter										
HDPE [ON MECP] ALT- 3	E108	30-Aug-2025	19-Sep-2025	14 days	20 days	* EHTR	20-Sep-2025	14 days	20 days	* EHTR
Physical Tests : TSS by Gravimetry										
HDPE [ON MECP] ALT- 2	E160	30-Aug-2025	----	----	----		19-Sep-2025	7 days	20 days	* EHTR
Physical Tests : TSS by Gravimetry										
HDPE [ON MECP] ALT- 3	E160	30-Aug-2025	----	----	----		19-Sep-2025	7 days	20 days	* EHTR
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) [ON MECP] ALT- 2	E508	30-Aug-2025	23-Sep-2025	28 days	24 days	✓	24-Sep-2025	28 days	24 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) [ON MECP] ALT- 3	E508	30-Aug-2025	23-Sep-2025	28 days	24 days	✓	24-Sep-2025	28 days	24 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) ALT- 2	E420	30-Aug-2025	19-Sep-2025	180 days	20 days	✓	19-Sep-2025	180 days	20 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) ALT- 3	E420	30-Aug-2025	19-Sep-2025	180 days	20 days	✓	19-Sep-2025	180 days	20 days	✓

[Legend & Qualifier Definitions](#)

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Work Order : WT2526220
Client : Defence Construction Canada
Project : TR23ENV9 SC80739



EHTR: Exceeded ALS recommended hold time prior to sample receipt.
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 (%)		Evaluation
			QC	Regular	Actual	Expected	
Analytical Methods							
Laboratory Duplicates (DUP)							
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2227468	0	4	0.0	5.0	✖
Conductivity in Water	E100	2229035	1	12	8.3	5.0	✔
pH by Meter	E108	2229036	1	5	20.0	5.0	✔
TSS by Gravimetry	E160	2228581	1	19	5.2	4.7	✔
Chloride in Water by IC	E235.Cl	2229032	1	12	8.3	5.0	✔
Nitrite in Water by IC	E235.NO2	2229031	1	18	5.5	5.0	✔
Nitrate in Water by IC	E235.NO3	2229029	1	20	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2229033	1	18	5.5	5.0	✔
Alkalinity Species by Titration	E290	2229034	1	19	5.2	5.0	✔
Ammonia by Fluorescence	E298	2229264	1	17	5.8	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2229265	1	16	6.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2227971	1	15	6.6	5.0	✔
Total Mercury in Water by CVAAS	E508	2235224	1	19	5.2	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2227252	1	12	8.3	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	2229266	1	12	8.3	5.0	✔
Laboratory Control Samples (LCS)							
Conductivity in Water	E100	2229035	1	12	8.3	5.0	✔
pH by Meter	E108	2229036	1	5	20.0	5.0	✔
TSS by Gravimetry	E160	2228581	1	19	5.2	4.7	✔
Chloride in Water by IC	E235.Cl	2229032	1	12	8.3	5.0	✔
Nitrite in Water by IC	E235.NO2	2229031	1	18	5.5	5.0	✔
Nitrate in Water by IC	E235.NO3	2229029	1	20	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2229033	1	18	5.5	5.0	✔
Alkalinity Species by Titration	E290	2229034	1	19	5.2	5.0	✔
Ammonia by Fluorescence	E298	2229264	1	17	5.8	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2229265	1	16	6.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2227971	1	15	6.6	5.0	✔
Total Mercury in Water by CVAAS	E508	2235224	1	19	5.2	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2227252	1	12	8.3	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	2229266	1	12	8.3	5.0	✔
Oil & Grease by Gravimetry	E567	2236627	1	20	5.0	5.0	✔
Mineral Oil & Grease by Gravimetry	E567SG	2236628	1	15	6.6	5.0	✔
Method Blanks (MB)							
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2227468	1	4	25.0	5.0	✔
Conductivity in Water	E100	2229035	1	12	8.3	5.0	✔



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							
Method Blanks (MB) - Continued							
TSS by Gravimetry	E160	2228581	1	19	5.2	4.7	✔
Chloride in Water by IC	E235.Cl	2229032	1	12	8.3	5.0	✔
Nitrite in Water by IC	E235.NO2	2229031	1	18	5.5	5.0	✔
Nitrate in Water by IC	E235.NO3	2229029	1	20	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2229033	1	18	5.5	5.0	✔
Alkalinity Species by Titration	E290	2229034	1	19	5.2	5.0	✔
Ammonia by Fluorescence	E298	2229264	1	17	5.8	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2229265	1	16	6.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2227971	2	15	13.3	5.0	✔
Total Mercury in Water by CVAAS	E508	2235224	1	19	5.2	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2227252	1	12	8.3	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	2229266	1	12	8.3	5.0	✔
Oil & Grease by Gravimetry	E567	2236627	1	20	5.0	5.0	✔
Mineral Oil & Grease by Gravimetry	E567SG	2236628	1	15	6.6	5.0	✔
Matrix Spikes (MS)							
Chloride in Water by IC	E235.Cl	2229032	1	12	8.3	5.0	✔
Nitrite in Water by IC	E235.NO2	2229031	1	18	5.5	5.0	✔
Nitrate in Water by IC	E235.NO3	2229029	1	20	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2229033	1	18	5.5	5.0	✔
Ammonia by Fluorescence	E298	2229264	1	17	5.8	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2229265	1	16	6.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2227971	1	15	6.6	5.0	✔
Total Mercury in Water by CVAAS	E508	2235224	1	19	5.2	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	2229266	1	12	8.3	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
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Waterloo	Water	APHA 9222 D (mod)	Following filtration (0.45 µm), and incubation at 44.5 ± 0.2°C for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Conductivity in Water	E100 ALS Environmental - Waterloo	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Waterloo	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 ALS Environmental - Waterloo	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Chloride in Water by IC	E235.Cl ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC	E235.NO2 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC	E235.NO3 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Waterloo	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Waterloo	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Waterloo	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove carbonate-based Inorganic Carbon (IC). Analysis is by high temperature combustion with infrared detection of CO ₂ . Forms of carbon associated with inorganic or organic molecules (e.g. SCN and CN) are included in NPOC if they are not removed by purging under acidic conditions. Notably, NPOC excludes most volatile organic compounds and free cyanide. For samples where the majority of Total Carbon is inorganic, this method provides greater accuracy and reliability versus the TOC by subtraction method (TC minus TIC).
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Waterloo	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Waterloo	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Waterloo	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Phenols (4AAP) in Water by Colorimetry	E562 ALS Environmental - Waterloo	Water	EPA 9066	This automated method is based on the distillation of phenol and subsequent reaction of the distillate with alkaline ferricyanide (K ₃ Fe(CN) ₆) and 4-amino-antipyrene (4-AAP) to form a red complex which is measured colorimetrically.
Oil & Grease by Gravimetry	E567 ALS Environmental - Waterloo	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG ALS Environmental - Waterloo	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Waterloo	Water	APHA 2340B	"Hardness (as CaCO ₃), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed as CaCO ₃ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because hardness is a property of water due to dissolved divalent cations. In non-turbid waters, Hardness from total Ca/Mg is normally comparable to Dissolved Hardness, but may be biased high if particulate forms of Ca or Mg are present.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG ALS Environmental - Waterloo	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Preparation for Ammonia	EP298 ALS Environmental - Waterloo	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Waterloo	Water		Preparation for Total Organic Carbon by Combustion
Oil & Grease Extraction for Gravimetry	EP567 ALS Environmental - Waterloo	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.



QUALITY CONTROL REPORT

<p>Work Order : WT2526220</p> <p>Client : Defence Construction Canada</p> <p>Contact : Cameron Chadwick</p> <p>Address : 8 Wing / CFB Trenton 14 Alert Boulevard Astra ON Canada K0K 3W0</p> <p>Telephone : 613 392 2811 ext 5491</p> <p>Project : TR23ENV9 SC80739</p> <p>PO : ----</p> <p>C-O-C number : ----</p> <p>Sampler : AT, KV</p> <p>Site : CFS Alert</p> <p>Quote number : WT23-DOND200-3</p> <p>No. of samples received : 2</p> <p>No. of samples analysed : 2</p>	<p>Page : 1 of 10</p> <p>Laboratory : ALS Environmental - Waterloo</p> <p>Account Manager : Andrew Martin</p> <p>Address : 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8</p> <p>Telephone : +1 519 886 6910</p> <p>Date Samples Received : 18-Sep-2025 09:00</p> <p>Date Analysis Commenced : 18-Sep-2025</p> <p>Issue Date : 24-Sep-2025 20:37</p>
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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 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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Hannah Lewis	Inorganics Analyst	Waterloo Inorganics, Waterloo, Ontario
Jeminikumari Patel	Analyst	Waterloo Microbiology, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Inorganics, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Metals, Waterloo, Ontario
Rachel Cameron	Supervisor - Semi-Volatile Extractions	Waterloo Organics, Waterloo, Ontario



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
Physical Tests (QC Lot: 2228581)											
WT2525510-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	10.2	11.2	1.0	Diff <2x LOR	----
Physical Tests (QC Lot: 2229034)											
WT2526219-001	Anonymous	Alkalinity, total (as CaCO3)	----	E290	2.0	mg/L	176	177	0.498%	20%	----
Physical Tests (QC Lot: 2229035)											
WT2526219-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	460	462	0.434%	10%	----
Physical Tests (QC Lot: 2229036)											
WT2526219-001	Anonymous	pH	----	E108	0.10	pH units	7.79	7.71	1.03%	4%	----
Anions and Nutrients (QC Lot: 2229029)											
HA2503828-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2229031)											
HA2503828-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2229032)											
HA2503828-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	4.19	4.08	0.11	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2229033)											
HA2503828-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	5.01	4.88	2.45%	20%	----
Anions and Nutrients (QC Lot: 2229264)											
HA2503619-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0501	0.0485	0.0016	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 2229265)											
HA2503828-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Total Metals (QC Lot: 222971)											
WT2526188-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0300	mg/L	0.759	0.665	13.2%	20%	----
		Arsenic, total	7440-38-2	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000500	mg/L	<0.0000500	<0.0000500	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.500	mg/L	175	174	0.411%	20%	----
		Chromium, total	7440-47-3	E420	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.100	mg/L	0.493	0.496	0.003	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000500	mg/L	<0.000500	<0.000500	0	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0500	mg/L	100	102	1.66%	20%	----
		Nickel, total	7440-02-0	E420	0.00500	mg/L	0.00514	0.00544	0.00030	Diff <2x LOR	----



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: 2227971) - continued											
WT2526188-001	Anonymous	Potassium, total	7440-09-7	E420	0.500	mg/L	11.4	11.7	2.42%	20%	----
		Silver, total	7440-22-4	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.500	mg/L	88.1	89.6	1.70%	20%	----
		Zinc, total	7440-66-6	E420	0.0300	mg/L	<0.0300	<0.0300	0	Diff <2x LOR	----
Total Metals (QC Lot: 2235224)											
BF2500330-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2227252)											
WT2526107-013	Anonymous	Biochemical oxygen demand [BOD]	----	E550	3.0	mg/L	<3.0	<3.0	0.0%	30%	----
Aggregate Organics (QC Lot: 2229266)											
WP2515884-001	Anonymous	Phenols, total (4AAP)	----	E562	0.0010	mg/L	<0.0010	<0.0010	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
Physical Tests (QCLot: 2228581)						
Solids, total suspended [TSS]	---	E160	3	mg/L	<3.0	---
Physical Tests (QCLot: 2229034)						
Alkalinity, total (as CaCO3)	---	E290	1	mg/L	1.2	---
Physical Tests (QCLot: 2229035)						
Conductivity	---	E100	1	µS/cm	1.8	---
Anions and Nutrients (QCLot: 2229029)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	---
Anions and Nutrients (QCLot: 2229031)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	---
Anions and Nutrients (QCLot: 2229032)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	---
Anions and Nutrients (QCLot: 2229033)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	---
Anions and Nutrients (QCLot: 2229264)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	---
Organic / Inorganic Carbon (QCLot: 2229265)						
Carbon, total organic [TOC]	---	E355-L	0.5	mg/L	<0.50	---
Microbiological Tests (QCLot: 2227468)						
Coliforms, thermotolerant [fecal]	---	E012.FC	1	CFU/100mL	<1	---
Total Metals (QCLot: 2227971)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	---
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	---
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	---
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	---
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	---
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	---
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	---
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	---
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	---
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	---
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	---
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	---



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 2227971) - continued						
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Total Metals (QCLot: 2230433)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Total Metals (QCLot: 2235224)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Aggregate Organics (QCLot: 2227252)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 2229266)						
Phenols, total (4AAP)	----	E562	0.001	mg/L	<0.0010	----
Aggregate Organics (QCLot: 2236627)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 2236628)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----



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
Physical Tests (QCLot: 2228581)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	94.0	85.0	115	---
Physical Tests (QCLot: 2229034)									
Alkalinity, total (as CaCO3)	---	E290	1	mg/L	150 mg/L	102	85.0	115	---
Physical Tests (QCLot: 2229035)									
Conductivity	---	E100	1	µS/cm	1410 µS/cm	104	90.0	110	---
Physical Tests (QCLot: 2229036)									
pH	---	E108	---	pH units	7 pH units	101	98.0	102	---
Anions and Nutrients (QCLot: 2229029)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	97.5	90.0	110	---
Anions and Nutrients (QCLot: 2229031)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	97.1	90.0	110	---
Anions and Nutrients (QCLot: 2229032)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	---
Anions and Nutrients (QCLot: 2229033)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.3	90.0	110	---
Anions and Nutrients (QCLot: 2229264)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	99.0	85.0	115	---
Organic / Inorganic Carbon (QCLot: 2229265)									
Carbon, total organic [TOC]	---	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	---
Total Metals (QCLot: 2227971)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	0.1 mg/L	98.9	80.0	120	---
Arsenic, total	7440-38-2	E420	0.0001	mg/L	0.05 mg/L	106	80.0	120	---
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.005 mg/L	100.0	80.0	120	---
Calcium, total	7440-70-2	E420	0.05	mg/L	2.5 mg/L	97.7	80.0	120	---
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.012 mg/L	99.8	80.0	120	---
Copper, total	7440-50-8	E420	0.0005	mg/L	0.012 mg/L	101	80.0	120	---
Iron, total	7439-89-6	E420	0.01	mg/L	0.05 mg/L	100	80.0	120	---
Lead, total	7439-92-1	E420	0.00005	mg/L	0.025 mg/L	102	80.0	120	---
Magnesium, total	7439-95-4	E420	0.005	mg/L	2.5 mg/L	98.1	80.0	120	---



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: 2227971) - continued									
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.025 mg/L	100	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	2.5 mg/L	96.1	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.005 mg/L	98.6	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	2.5 mg/L	100.0	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.025 mg/L	99.6	80.0	120	----
Total Metals (QCLot: 2235224)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	104	80.0	120	----
Aggregate Organics (QCLot: 2227252)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	100	85.0	115	----
Aggregate Organics (QCLot: 2229266)									
Phenols, total (4AAP)	----	E562	0.001	mg/L	0.02 mg/L	99.4	85.0	115	----
Aggregate Organics (QCLot: 2236627)									
Oil & grease (gravimetric)	----	E567	5	mg/L	200 mg/L	102	70.0	130	----
Aggregate Organics (QCLot: 2236628)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	100 mg/L	98.0	70.0	130	----



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
Anions and Nutrients (QCLot: 2229029)										
HA2503828-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	2.40 mg/L	2.5 mg/L	96.2	75.0	125	----
Anions and Nutrients (QCLot: 2229031)										
HA2503828-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.486 mg/L	0.5 mg/L	97.3	75.0	125	----
Anions and Nutrients (QCLot: 2229032)										
HA2503828-001	Anonymous	Chloride	16887-00-6	E235.Cl	99.9 mg/L	100 mg/L	99.9	75.0	125	----
Anions and Nutrients (QCLot: 2229033)										
HA2503828-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	98.4 mg/L	100 mg/L	98.4	75.0	125	----
Anions and Nutrients (QCLot: 2229264)										
HA2503619-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0998 mg/L	0.1 mg/L	99.8	75.0	125	----
Organic / Inorganic Carbon (QCLot: 2229265)										
HA2503828-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.67 mg/L	5 mg/L	113	70.0	130	----
Total Metals (QCLot: 2227971)										
WT2526219-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0976 mg/L	0.1 mg/L	97.6	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0541 mg/L	0.05 mg/L	108	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00518 mg/L	0.005 mg/L	104	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0128 mg/L	0.012 mg/L	102	70.0	130	----
		Copper, total	7440-50-8	E420	ND mg/L	----	ND	70.0	130	----
		Iron, total	7439-89-6	E420	ND mg/L	----	ND	70.0	130	----
		Lead, total	7439-92-1	E420	0.0254 mg/L	0.025 mg/L	101	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0252 mg/L	0.025 mg/L	101	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Silver, total	7440-22-4	E420	0.00493 mg/L	0.005 mg/L	98.7	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
Zinc, total	7440-66-6	E420	0.0236 mg/L	0.025 mg/L	94.6	70.0	130	----		
Total Metals (QCLot: 2235224)										
WT2526109-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000989 mg/L	0 mg/L	98.9	70.0	130	----
Aggregate Organics (QCLot: 2229266)										
WP2515884-001	Anonymous	Phenols, total (4AAP)	----	E562	0.0205 mg/L	0.02 mg/L	102	75.0	125	----





15-678
AC-829
MM-481
N-230
066-888 804

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 22 -
Page 1 of 1

Environmental Division
Waterloo
Work Order Reference
WT2526220



Telephone : - 1 519 886 8911

Contact and company name below will appear on the final report

Company: Defence Construction Canada

Contact: Cameron Chadwick

Phone: 613-392-2811 ext 5491/4815

Company address below will appear on the final report

Street: 5 Greenwood Road

City/Province: Asira / Ontario

Postal Code: K0K 3W0

Invoice To: Same as Report To

Copy of Invoice with Report: YES NO

Company: YES NO

Contact: YES NO

Project Information

ALS Client Code / QUOTE #: DONND200 / W723-DONND200-3

Job / Project #: TR23ENV9 - SC80739

PO / AFE: CFS Alert & CFS Eureka

LSD: *510*

ALS Lab Work Order # (ALS use only):

ALS Sample # (ALS use only)

Sample Identification and/or Coordinates (This description will appear on the report)

ALT-3

ALT-2

Reports / Recipients

Select Report Format: 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: EMAIL MAIL FAX

Email 1 or Fax: cameron.chadwick@dcc-cdc.gc.ca

Email 2: bial.siddiqui@dcc-cdc.gc.ca

Email 3:

Invoice Recipients

Select Invoice Distribution: EMAIL MAIL FAX

Email 1 or Fax: cameron.chadwick@dcc-cdc.gc.ca

Email 2: bial.siddiqui@dcc-cdc.gc.ca

Email 3:

Oil and Gas Required Fields (client use)

AFE/Coast Center: PO#

Major/Minor Code: Routing Code:

Requisitioner: Location:

ALS Contact: Andrew Martin

Sampler: AT, K

Date (dd-mm-yy)

Time (hh:mm)

Sample Type

30-Aug-25

09:05

Water

30-Aug-25

08:40

Water

Turnaround Time (TAT) Requested

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.

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please contact your A/E to confirm availability.

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

Water General "G":

TSS, pH, EC, ALK, NO3, NO2, SO4

Oil & Grease

Phenols, TOC, NH3

Total Metals, Hg and Hardness "M"

Water Sewage "S":

BOD, Fecal Coliforms, Chloride

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

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

*SOMAGG

Run analysis regardless of hold times

Drinking Water (DW) Samples¹ (client use)

Are samples taken from a Regulated DW System?

YES NO

Are samples for human consumption/ use?

YES NO

Released by: *[Signature]*

Date: *Sept 5, 2025*

Time: *9:00*

SHIPMENT RELEASE (client use)

Date: *Sept 5, 2025*

Time: *9:00*

Received by: *[Signature]*

Date: *Sept 5, 2025*

Time: *9:00*

INITIAL SHIPMENT RECEPTION (ALS use only)

Date: *9/18/25*

Time: *9:00*

Received by: *[Signature]*

Date: *9/18/25*

Time: *9:00*

WHITE - LABORATORY COPY

YELLOW - CLIENT COPY

COOLING METHOD: NONE ICE ICE PACKS FROZEN COOLING INITIATED

COOLER CUSTODY SEALS INTACT: YES N/A

SAMPLE CUSTODY SEALS INTACT: YES N/A

INITIAL COOLER TEMPERATURES °C: *-0.8*

FINAL SHIPMENT RECEPTION (ALS use only)

Date: *9/18/25*

Time: *9:00*

Received by: *[Signature]*

Date: *9/18/25*

Time: *9:00*