Annual Report for the Municipality of Chesterfield Inlet

Year being reported: 2023

Under Water Licence 3AM-CHE2333 Municipality of Chesterfield is allotted 2,000 CUBIC METRES PER DAY FOR FILLING WATER RESERVOIR AND 23,000 CUBIC METRES PER ANNUM FROM FIRST LAKE.

a. The daily, monthly and annual quantities in cubic metres of Water withdrawn from First Lake (Puiqsuk Lake) at Monitoring Station CHE-1;
    - Water is drawn annually from Puiqsuk Lake to Raw Water cell (Reservoir) in Municipality.
    - September 2023

Month Reported Quantity of Water	Obtained from all sources (L)	Quantity of Sewage Waste Discharged (L)
January	1,403,575.30	Same
February	1,347,629.30	Same
March	1,475,803.80	Same
April	1,362,194.40	Same
May	1,376,810.90	Same
June	1,321,449.50	Same
July	1,315,501.40	Same
August	1,346,956.40	Same
September	1,366,857.30	Same
October	1,444,696.40	Same
November	1,308,567.10	Same
December	1,342,570.70	Same
Annual Total	16,412,612.60	Same

b. The daily, month and annual quantities in cubic metres of water withdrawn from water supply facility pump-house at monitoring station CHE-1A;
    - Please see table above

c. The monthly and annual quantities in cubic metres of sludge removed from the Sewage Disposal Facility;
    - No meter exists to measure the sewage discharge volumes, therefore Sewage discharge volumes are considered equal to the water consumption volumes. See table above.
    - No sludge removed

d. A summary report which includes all data and information generated under the Monitoring Program, including the QA/QC program, in electronic formats acceptable to the Board;
    - Past information from past SAO not available, looking for information from the board.

e. A summary of modifications and/or major maintenance work carried out on the Water Supply, Solid Waste and Sewage Disposal Facilities, including all associated structures;
    - none

f. A progress report and revisions (if applicable) to any studies requested by the Board that relate to Water use, Waste management, or reclamation and a brief description of any future studies

planned by the Licensee including, a non-technical executive summary for the general public, translated into Inuktitut;

- None that I'm aware of

g. Any revisions required, in the form of addenda, to Plans, Manuals and Reports approved under the Licence;

- none

h. A list and description, including volumes, of all unauthorized discharges, spills and summaries of follow-up action taken;

- None related to licensed facilities

i. A summary of any closure and reclamation work undertaken and an outline of any work anticipated for the next year, including any changes to implementation and scheduling;

- none

j. A summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector;

- Working with inspector on past inspections

k. A summary of any studies, reports and plans requested by the Board that relate to Water use, Waste disposal, or reclamation and a brief description of any future studies planned; and

- none

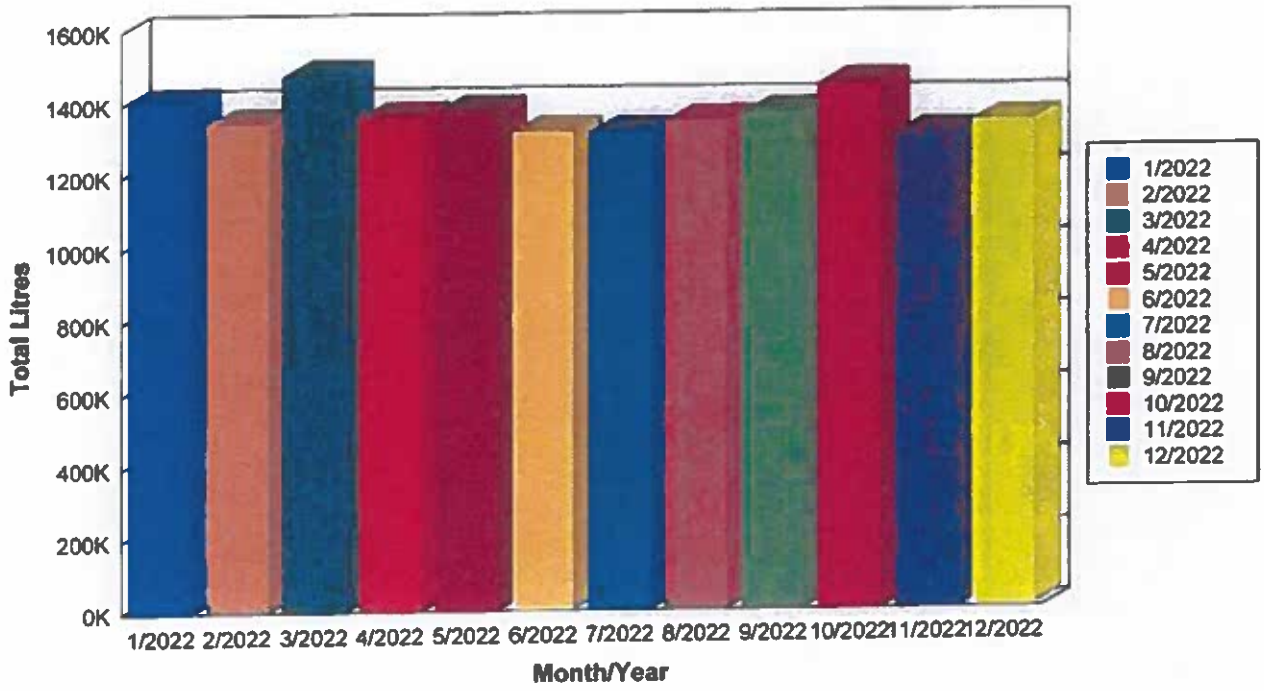
l. Any other details on the Water use and Waste disposal requested by the Board by November 1st of the year being reported.

- None

Schedule I: Conditions Applying to Monitoring

- Sampling program to my knowledge was conducted with CGS and sample reports from previous year will follow.

Delivery Summary By Month and Year



Month / Year	Litres Delivered
January 2022	1,403,575.30
February 2022	1,347,629.30
March 2022	1,475,803.80
April 2022	1,362,194.40
May 2022	1,376,810.90
June 2022	1,321,449.50
July 2022	1,315,501.40
August 2022	1,346,956.50
September 2022	1,366,857.30
October 2022	1,444,696.40
November 2022	1,308,567.10
December 2022	1,342,570.70
Grand Total:	**16,412,612.60**

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CERTIFICATE OF ANALYSIS

Work Order	: **WP2320341**	Page	: 1 of 5
Client	: **Hamlet of Chesterfield Inlet**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Kivalliq Water Samples	Account Manager	: Craig Riddell
Address	: PO Box 10 Chesterfield Inlet NU Canada X0C 0B0	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 867 898 4601	Telephone	: +1 204 255 9720
Project	: —	Date Samples Received	: 22-Aug-2023 12:10
PO	: —	Date Analysis Commenced	: 22-Aug-2023
C-O-C number	: —	Issue Date	: 29-Aug-2023 16:30
Sampler	: —		
Site	: —		
Quote number	: Analytical Testing 01		
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.

Signatories	*Position*	*Laboratory Department*
Ana Srzic		Organics, Winnipeg, Manitoba
Lee McTavish		Inorganics, Winnipeg, Manitoba
Lee McTavish		Metals, Winnipeg, Manitoba
Leila Conyard	Lab Assistant	Metals, Winnipeg, Manitoba
Melissa Hahn	Department Manager - Biology	Microbiology, Winnipeg, Manitoba
Nik Perkio	Inorganics Analyst	Inorganics, Waterloo, Ontario
Oren Wurenqiqige	Analyst	Microbiology, Winnipeg, Manitoba
Rhovee Guevarra		Inorganics, Winnipeg, Manitoba

General Comments

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

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

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

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

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

Unit	*Description*
-	no units
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

<: 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

Qualifier	*Description*
BODP	*BOD dilution results differed by more than 30% RPD. Precision of reported BOD result may be less than usual.*
DLHC	*Detection Limit Raised: Dilution required due to high concentration of test analyte(s).*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*
MBHT	*The APHA 30 hour holding time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).*

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	CHE-3 + 3A	CHE-4	---	---	---
					Client sampling date / time	21-Aug-2023 11:00	21-Aug-2023 10:30	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2320341-003	WP2320341-004	---	---	---
						Result	Result	---	---	---
Physical Tests										
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290/WP	1.0	mg/L		397	127	---	---	---
Alkalinity, carbonate (as CO3)	3812-32-6	E290/WP	1.0	mg/L		<1.0	<1.0	---	---	---
Alkalinity, hydroxide (as OH)	14280-30-9	E290/WP	1.0	mg/L		<1.0	<1.0	---	---	---
Conductivity	---	E100/WP	2.0	µS/cm		942	26900	---	---	---
Hardness (as CaCO3), from total Ca/Mg	---	EC100A/WP	0.50	mg/L		113	3640	---	---	---
pH	---	E108/WP	0.10	pH units		7.48	7.79	---	---	---
Solids, total suspended [TSS]	---	E160/WP	3.0	mg/L		109	36.2	---	---	---
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E303/WP	0.010	mg/L		61.0	0.022	---	---	---
Chloride	16887-00-6	E235.Cl/WP	0.50	mg/L		66.2	11600	---	---	---
Nitrate (as N)	14797-55-8	E235.NO3/WP	0.020	mg/L		<0.040 DLM	<10.0 DLM	---	---	---
Nitrate + Nitrite (as N)	---	EC235.N+N/WP	0.0050	mg/L		<0.0447	<11.2	---	---	---
Nitrite (as N)	14797-65-0	E235.NO2/WP	0.010	mg/L		<0.020 DLM	<5.00 DLM	---	---	---
Phosphorus, total	7723-14-0	E372/WP	0.020	mg/L		9.87	0.130	---	---	---
Sulfate (as SO4)	14808-79-8	E235.SO4/WP	0.30	mg/L		23.6	1290	---	---	---
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	---	E355-L/WP	0.50	mg/L		188	8.49	---	---	---
Microbiological Tests										
Coliforms, thermotolerant [fecal]	---	E010.FC-H/WP	10	MPN/100mL		>24200 MRHT	640	---	---	---
Total Metals										
Aluminum, total	7429-90-5	E420/WP	0.0030	mg/L		0.304	0.118	---	---	---
Antimony, total	7440-36-0	E420/WP	0.00010	mg/L		0.00083	0.00160	---	---	---
Arsenic, total	7440-38-2	E420/WP	0.00010	mg/L		0.00088	0.00262	---	---	---
Barium, total	7440-39-3	E420/WP	0.00010	mg/L		0.0138	0.0255	---	---	---
Beryllium, total	7440-41-7	E420/WP	0.000020	mg/L		<0.000020	<0.000200 DLM	---	---	---
Bismuth, total	7440-69-9	E420/WP	0.000050	mg/L		0.00135	<0.000500 DLM	---	---	---
Boron, total	7440-42-8	E420/WP	0.010	mg/L		0.197	2.27	---	---	---
Cadmium, total	7440-43-9	E420/WP	0.0000050	mg/L		0.000153	0.0000540	---	---	---

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: CHE-3 + 3A	CHE-4	—	—	—
					Client sampling date / time: 21-Aug-2023 11:00	21-Aug-2023 10:30	—	—	—
					WP2320341-003	WP2320341-004	-------	-------	-------
					Result	Result	—	—	—
Total Metals									
Calcium, total	7440-70-2	E420/WP	0.050	mg/L	35.0	228	—	—	—
Cesium, total	7440-46-2	E420/WP	0.000010	mg/L	0.000186	0.000145	—	—	—
Chromium, total	7440-47-3	E420/WP	0.00050	mg/L	0.00178	0.0530	—	—	—
Cobalt, total	7440-48-4	E420/WP	0.00010	mg/L	0.00069	<0.00100 DLM	—	—	—
Copper, total	7440-50-8	E420/WP	0.00050	mg/L	0.0774	0.00575	—	—	—
Iron, total	7439-89-6	E420/WP	0.010	mg/L	2.31	0.490	—	—	—
Lead, total	7439-92-1	E420/WP	0.000050	mg/L	0.00213	<0.000500 DLM	—	—	—
Lithium, total	7439-93-2	E420/WP	0.0010	mg/L	0.0041	0.0875	—	—	—
Magnesium, total	7439-95-4	E420/WP	0.0050	mg/L	6.27	747	—	—	—
Manganese, total	7439-96-5	E420/WP	0.00010	mg/L	0.168	0.00887	—	—	—
Molybdenum, total	7439-98-7	E420/WP	0.000050	mg/L	0.00129	0.0103	—	—	—
Nickel, total	7440-02-0	E420/WP	0.00050	mg/L	0.00449	0.0143	—	—	—
Phosphorus, total	7723-14-0	E420/WP	0.050	mg/L	10.5	<0.500 DLM	—	—	—
Potassium, total	7440-09-7	E420/WP	0.050	mg/L	26.6	242	—	—	—
Rubidium, total	7440-17-7	E420/WP	0.00020	mg/L	0.0294	0.0676	—	—	—
Selenium, total	7782-49-2	E420/WP	0.000050	mg/L	0.00142	<0.000500 DLM	—	—	—
Silicon, total	7440-21-3	E420/WP	0.10	mg/L	2.01	1.09	—	—	—
Silver, total	7440-22-4	E420/WP	0.000010	mg/L	0.000199	<0.000100 DLM	—	—	—
Sodium, total	7440-23-5	E420/WP	0.050	mg/L	52.8	23.4	—	—	—
Strontium, total	7440-24-6	E420/WP	0.00020	mg/L	0.224	4.30	—	—	—
Sulfur, total	7704-34-9	E420/WP	0.50	mg/L	12.0	605	—	—	—
Tellurium, total	13494-80-9	E420/WP	0.00020	mg/L	<0.00020	<0.00200 DLM	—	—	—
Thallium, total	7440-28-0	E420/WP	0.000010	mg/L	0.000012	<0.000100 DLM	—	—	—
Thorium, total	7440-29-1	E420/WP	0.00010	mg/L	<0.00010	<0.00100 DLM	—	—	—
Tin, total	7440-31-5	E420/WP	0.00010	mg/L	0.00153	<0.00100 DLM	—	—	—
Titanium, total	7440-32-6	E420/WP	0.00030	mg/L	0.0171	0.00920	—	—	—
Tungsten, total	7440-33-7	E420/WP	0.00010	mg/L	<0.00010	<0.00100 DLM	—	—	—
Uranium, total	7440-61-1	E420/WP	0.000010	mg/L	0.00136	0.00192	—	—	—
Vanadium, total	7440-62-2	E420/WP	0.00050	mg/L	0.00092	<0.00500 DLM	—	—	—
Zinc, total	7440-66-6	E420/WP	0.0030	mg/L	0.169	0.138	—	—	—

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	CHE-3 + 3A	CHE-4	—	—	—
					Client sampling date / time	21-Aug-2023 11:00	21-Aug-2023 10:30	—	—	—
						WP2320341-003	WP2320341-004	-------	-------	-------
						Result	Result	—	—	—
Total Metals										
Zirconium, total	7440-67-7	E420/WP	0.00020	mg/L		0.00182	<0.00200 OLM	—	—	—
Dissolved Metals										
Mercury, dissolved	7439-97-6	E509/WP	0.0000050	mg/L		0.0000163	<0.0000050	—	—	—
Dissolved mercury filtration location	—	EP509/WP	-	-		Field	Field	—	—	—
Aggregate Organics										
Biochemical oxygen demand [BOD]	—	E550/WP	2.0	mg/L		199	10.1 BODP	—	—	—
Carbonaceous biochemical oxygen demand [CBOD]	—	E555/WP	2.0	mg/L		214	<2.0	—	—	—
Oil & grease (gravimetric)	—	E567/WP	5.0	mg/L		47.1	<5.0	—	—	—
Phenols, total (4AAP)	—	E562/WT	0.0010	mg/L		0.256 DLHC, OLM	<0.0010	—	—	—

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

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	:**WP2320341**	Page	: 1 of 13
Client	:**Hamlet of Chesterfield Inlet**	Laboratory	: ALS Environmental - Winnipeg
Contact	:Kivalliq Water Samples	Account Manager	: Craig Riddell
Address	:PO Box 10 Chesterfield Inlet NU Canada X0C 0B0	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	:867 898 9926	Telephone	: +1 204 255 9720
Project	:—	Date Samples Received	: 22-Aug-2023 12:10
PO	:—	Issue Date	: 29-Aug-2023 16:38
C-O-C number	:—		
Sampler	:—		
Site	:—		
Quote number	:Analytical Testing 01		
No. of samples received	:2		
No. of samples analysed	:2		

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 Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Duplicate outliers occur - please see following pages for full details.
- 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.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: Water

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Duplicate (DUP) RPDs								
Microbiological Tests	WP2320341-003	CHE-3 + 3A	Coliforms, thermotolerant [fecal]	—	E010.FC-H	111 % DUP-H	64.99999%	Duplicate RPD does not meet the DQO for this test.

Result Qualifiers

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.

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 / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] CHE-3 + 3A	E550	21-Aug-2023	—	—	—		24-Aug-2023	3 days	3 days	✓
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] CHE-4	E550	21-Aug-2023	—	—	—		24-Aug-2023	3 days	3 days	✓
Aggregate Organics : Biochemical Oxygen Demand (Carbonaceous) - 5 day										
HDPE [BOD HT 3d] CHE-3 + 3A	E555	21-Aug-2023	—	—	—		24-Aug-2023	3 days	3 days	✓
Aggregate Organics : Biochemical Oxygen Demand (Carbonaceous) - 5 day										
HDPE [BOD HT 3d] CHE-4	E555	21-Aug-2023	—	—	—		24-Aug-2023	3 days	3 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) CHE-3 + 3A	E567	21-Aug-2023	29-Aug-2023	28 days	8 days	✓	29-Aug-2023	40 days	0 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) CHE-4	E567	21-Aug-2023	29-Aug-2023	28 days	8 days	✓	29-Aug-2023	40 days	0 days	✓
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid) CHE-4	E562	21-Aug-2023	25-Aug-2023	28 days	4 days	✓	25-Aug-2023	28 days	4 days	✓

Matrix: Water

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / 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) CHE-3 + 3A	E582	21-Aug-2023	28-Aug-2023	28 days	7 days	✓	28-Aug-2023	28 days	7 days	✓
Anions and Nutrients : Ammonia in Water by Colour										
Amber glass total (sulfuric acid) CHE-3 + 3A	E303	21-Aug-2023	24-Aug-2023	28 days	3 days	✓	24-Aug-2023	28 days	3 days	✓
Anions and Nutrients : Ammonia in Water by Colour										
Amber glass total (sulfuric acid) CHE-4	E303	21-Aug-2023	24-Aug-2023	28 days	3 days	✓	24-Aug-2023	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE CHE-4	E235.Cl	21-Aug-2023	22-Aug-2023	28 days	1 days	✓	22-Aug-2023	28 days	1 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE CHE-3 + 3A	E235.Cl	21-Aug-2023	24-Aug-2023	28 days	3 days	✓	24-Aug-2023	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC										
HDPE CHE-4	E235.NO3	21-Aug-2023	22-Aug-2023	3 days	1 days	✓	22-Aug-2023	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC										
HDPE CHE-3 + 3A	E235.NO3	21-Aug-2023	24-Aug-2023	3 days	3 days	✓	24-Aug-2023	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC										
HDPE CHE-4	E235.NO2	21-Aug-2023	22-Aug-2023	3 days	1 days	✓	22-Aug-2023	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC										
HDPE CHE-3 + 3A	E235.NO2	21-Aug-2023	24-Aug-2023	3 days	3 days	✓	24-Aug-2023	3 days	3 days	✓

Matrix: Water

Evaluation: ✗ = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / 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 CHE-4	E235.SO4	21-Aug-2023	22-Aug-2023	28 days	1 days	✓	22-Aug-2023	28 days	1 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE CHE-3 + 3A	E235.SO4	21-Aug-2023	24-Aug-2023	28 days	3 days	✓	24-Aug-2023	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.02 mg/L)										
Amber glass total (sulfuric acid) CHE-4	E372	21-Aug-2023	23-Aug-2023	28 days	2 days	✓	24-Aug-2023	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.02 mg/L)										
Amber glass total (sulfuric acid) CHE-3 + 3A	E372	21-Aug-2023	24-Aug-2023	28 days	3 days	✓	25-Aug-2023	28 days	4 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) CHE-3 + 3A	E509	21-Aug-2023	25-Aug-2023	28 days	4 days	✓	25-Aug-2023	28 days	4 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) CHE-4	E509	21-Aug-2023	25-Aug-2023	28 days	4 days	✓	25-Aug-2023	28 days	4 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate) 1:10										
Sterile HDPE (Sodium thiosulphate) CHE-4	E010.FC-H	21-Aug-2023	—	—	—		22-Aug-2023	30 hrs	28 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate) 1:10										
Sterile HDPE (Sodium thiosulphate) CHE-3 + 3A	E010.FC-H	21-Aug-2023	—	—	—		22-Aug-2023	30 hrs	30 hrs	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) CHE-4	E355-L	21-Aug-2023	23-Aug-2023	28 days	2 days	✓	23-Aug-2023	28 days	2 days	✓

Matrix: Water

Evaluation: ✖ = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / 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	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) CHE-3 + 3A	E355-L	21-Aug-2023	24-Aug-2023	28 days	3 days	✓	24-Aug-2023	28 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE CHE-4	E290	21-Aug-2023	23-Aug-2023	14 days	2 days	✓	23-Aug-2023	14 days	2 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE CHE-3 + 3A	E290	21-Aug-2023	28-Aug-2023	14 days	7 days	✓	28-Aug-2023	14 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE CHE-4	E100	21-Aug-2023	23-Aug-2023	28 days	2 days	✓	23-Aug-2023	28 days	2 days	✓
Physical Tests : Conductivity in Water										
HDPE CHE-3 + 3A	E100	21-Aug-2023	28-Aug-2023	28 days	7 days	✓	28-Aug-2023	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE CHE-3 + 3A	E108	21-Aug-2023	28-Aug-2023	0.25 hrs	169 hrs	✖ EHTR-FM	28-Aug-2023	0.25 hrs	176 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE CHE-4	E108	21-Aug-2023	23-Aug-2023	0.25 hrs	48 hrs	✖ EHTR-FM	23-Aug-2023	0.25 hrs	48 hrs	✖ EHTR-FM
Physical Tests : TSS by Gravimetry										
HDPE CHE-4	E160	21-Aug-2023	---	—	—		24-Aug-2023	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE CHE-3 + 3A	E160	21-Aug-2023	—	—	—		25-Aug-2023	7 days	4 days	✓

Matrix: Water

Evaluation: ✖ = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) CHE-4	E420	21-Aug-2023	24-Aug-2023	180 days	3 days	✓	24-Aug-2023	180 days	3 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) CHE-3 + 3A	E420	21-Aug-2023	25-Aug-2023	180 days	4 days	✓	25-Aug-2023	180 days	4 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✗ = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Ammonia in Water by Colour	E303	1101567	2	35	5.7	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1100984	2	32	6.2	5.0	✓
Biochemical Oxygen Demand (Carbonaceous) - 5 day	E555	1100986	2	14	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1099004	1	5	20.0	5.0	✓
Conductivity in Water	E100	1099175	2	31	6.4	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1103870	1	20	5.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1099002	1	9	11.1	5.0	✓
Nitrite in Water by IC	E235.NO2	1099001	0	8	0.0	5.0	✗
pH by Meter	E108	1099174	2	40	5.0	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1104027	2	39	5.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1099003	2	34	5.8	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate) 1:10	E010.FC-H	1099698	1	2	50.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1100978	2	36	5.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1099027	3	54	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.02 mg/L)	E372	1099953	2	36	5.5	5.0	✓
TSS by Gravimetry	E160	1099962	2	34	5.8	5.0	✓
Laboratory Control Samples (LCS)							
Ammonia in Water by Colour	E303	1101567	2	35	5.7	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1100964	2	32	6.2	5.0	✓
Biochemical Oxygen Demand (Carbonaceous) - 5 day	E555	1100966	2	14	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1099004	2	5	40.0	5.0	✓
Conductivity in Water	E100	1099175	2	31	6.4	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1103870	1	20	5.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1099002	2	9	22.2	5.0	✓
Nitrite in Water by IC	E235.NO2	1099001	2	8	25.0	5.0	✓
Oil & Grease by Gravimetry	E567	1108626	1	17	5.8	5.0	✓
pH by Meter	E108	1099174	2	40	5.0	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1104027	2	39	5.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1099003	2	34	5.8	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1100978	2	36	5.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1099027	3	54	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.02 mg/L)	E372	1099953	2	36	5.5	5.0	✓
TSS by Gravimetry	E160	1099962	2	34	5.8	5.0	✓
Method Blanks (MB)							
Ammonia in Water by Colour	E303	1101567	2	35	5.7	5.0	✓

Matrix: Water

Evaluation: ✗ = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Method Blanks (MB) - Continued							
Biochemical Oxygen Demand - 5 day	E550	1100984	2	32	6.2	5.0	✓
Biochemical Oxygen Demand (Carbonaceous) - 5 day	E555	1100986	2	14	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1099004	2	5	40.0	5.0	✓
Conductivity in Water	E100	1099175	2	31	6.4	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1103670	1	20	5.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1099002	2	9	22.2	5.0	✓
Nitrite in Water by IC	E235.NO2	1099001	2	8	25.0	5.0	✓
Oil & Grease by Gravimetry	E567	1108626	1	17	5.8	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1104027	2	39	5.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1099003	2	34	5.8	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate) 1:10	E010.FC-H	1099698	1	2	50.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1100978	2	36	5.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1099027	3	54	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.02 mg/L)	E372	1099953	2	36	5.5	5.0	✓
TSS by Gravimetry	E160	1099962	2	34	5.8	5.0	✓
Matrix Spikes (MS)							
Ammonia in Water by Colour	E303	1101567	2	35	5.7	5.0	✓
Chloride in Water by IC	E235.Cl	1099004	1	5	20.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1103670	1	20	5.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1099002	1	9	11.1	5.0	✓
Nitrite in Water by IC	E235.NO2	1099001	0	8	0.0	5.0	✗
Phenols (4AAP) in Water by Colorimetry	E562	1104027	2	39	5.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1099003	2	34	5.8	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1100978	2	36	5.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1099027	3	54	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.02 mg/L)	E372	1099953	2	36	5.5	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 (Enzyme Substrate) 1:10	E010.FC-H ALS Environmental - Winnipeg	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C. Sample dilution performed.
Conductivity in Water	E100 ALS Environmental - Winnipeg	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 - Winnipeg	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 - Winnipeg	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 - Winnipeg	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 - Winnipeg	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 - Winnipeg	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 - Winnipeg	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 - Winnipeg	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 in Water by Colour	E303 ALS Environmental - Winnipeg	Water	APHA 4500 NH3-NITROGEN (AMMONIA)	This analysis is carried out using procedures adapted from APHA Method 4500 NH3 "NITROGEN (AMMONIA)". Ammonia is determined using the automated phenate colourimetric method.
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Winnipeg	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 inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Total Phosphorus by Colourimetry (0.02 mg/L)	E372 ALS Environmental - Winnipeg	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Winnipeg	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.
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Winnipeg	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then 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 - Winnipeg	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.
Biochemical Oxygen Demand (Carbonaceous) - 5 day	E555 ALS Environmental - Winnipeg	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. Nitrification inhibitor is added to samples to prevent nitrogenous compounds from consuming oxygen resulting in only carbonaceous oxygen demand being reported by this method. 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 ($K_3Fe(CN)_6$) and 4-amino-antipyrine (4-AAP) to form a red complex which is measured colorimetrically.
Oil & Grease by Gravimetry	E567 ALS Environmental - Winnipeg	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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Winnipeg	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 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 it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Winnipeg	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Winnipeg	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Winnipeg	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Winnipeg	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Winnipeg	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
Oil & Grease Extraction for Gravimetry	EP567 ALS Environmental - Winnipeg	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

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QUALITY CONTROL REPORT

Work Order	:**WP2320341**	**Page**	: 1 of 21
Client	:Hamlet of Chesterfield Inlet	**Laboratory**	:ALS Environmental - Winnipeg
Contact	:Kivalliq Water Samples	**Account Manager**	:Craig Riddell
Address	:PO Box 10 Chesterfield Inlet NU Canada X0C 0B0	**Address**	:1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	:	**Telephone**	:+1 204 255 9720
Project	:—	**Date Samples Received**	:22-Aug-2023 12:10
PO	:—	**Date Analysis Commenced**	:22-Aug-2023
C-O-C number	:—	**Issue Date**	:29-Aug-2023 16:35
Sampler	:— 867 898 9926		
Site	:—		
Quote number	:Analytical Testing 01		
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 Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

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

Signatories	*Position*	*Laboratory Department*
Ana Srzic		Winnipeg Organics, Winnipeg, Manitoba
Lee McTavish		Winnipeg Inorganics, Winnipeg, Manitoba
Lee McTavish		Winnipeg Metals, Winnipeg, Manitoba
Leila Conyard	Lab Assistant	Winnipeg Metals, Winnipeg, Manitoba
Melissa Hahn	Department Manager - Biology	Winnipeg Microbiology, Winnipeg, Manitoba
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Rhovee Guevarra		Winnipeg Inorganics, Winnipeg, Manitoba

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: 1099174)											
WP2320341-004	CHE-4	pH	----	E108	0.10	pH units	7.79	7.81	0.256%	4%	----
Physical Tests (QC Lot: 1099175)											
WP2320341-004	CHE-4	Conductivity	----	E100	2.0	µS/cm	26900	26400	1.88%	10%	----
Physical Tests (QC Lot: 1099962)											
WP2320341-004	CHE-4	Solids, total suspended [TSS]	----	E160	3.0	mg/L	36.2	33.6	7.45%	20%	----
Physical Tests (QC Lot: 1101707)											
WP2320722-009	Anonymous	pH	----	E108	0.10	pH units	8.08	8.06	0.248%	4%	----
Physical Tests (QC Lot: 1101708)											
WP2320722-009	Anonymous	Conductivity	----	E100	1.0	µS/cm	215	216	0.464%	10%	----
Physical Tests (QC Lot: 1102301)											
WP2320341-003	CHE-3 + 3A	Solids, total suspended [TSS]	----	E160	3.0	mg/L	109	110	0.916%	20%	----
Anions and Nutrients (QC Lot: 1099002)											
WP2320349-001	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: 1099003)											
WP2320349-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	<0.30	<0.30	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1099004)											
WP2320349-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	1.71	1.73	0.03	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1099953)											
WP2320341-004	CHE-4	Phosphorus, total	7723-14-0	E372	0.020	mg/L	0.130	0.118	0.012	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1101567)											
WP2320437-001	Anonymous	Ammonia, total (as N)	7664-41-7	E303	0.010	mg/L	0.011	0.012	0.001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1101833)											
WP2320730-007	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	3.70	3.70	0.0120%	20%	----
Anions and Nutrients (QC Lot: 1102353)											
WP2320341-003	CHE-3 + 3A	Phosphorus, total	7723-14-0	E372	0.200	mg/L	9.87	9.82	0.519%	20%	----
Anions and Nutrients (QC Lot: 1102413)											
WP2320719-004	Anonymous	Ammonia, total (as N)	7664-41-7	E303	0.010	mg/L	0.029	0.029	0.0003	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1099027)											
WP2320242-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	3.21	2.74	0.46	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1101685)											

Sub-Matrix: Water

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Organic / Inorganic Carbon (QC Lot: 1101685) - continued											
WP2320535-001	Anonymous	Carbon, total organic [TOC]	—	E355-L	0.50	mg/L	4.72	4.41	0.31	Diff <2x LOR	—
Organic / Inorganic Carbon (QC Lot: 1105180)											
WP2320947-001	Anonymous	Carbon, total organic [TOC]	—	E355-L	0.50	mg/L	19.0	19.3	1.24%	20%	—
Microbiological Tests (QC Lot: 1099698)											
WP2320341-003	CHE-3 + 3A	Coliforms, thermotolerant [fecal]	—	E010.FC-H	10	MPN/100mL	>24200	6910	111%	65%	DUP-H
Total Metals (QC Lot: 1100978)											
WP2320204-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	—
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00160	0.00160	0.0567%	20%	—
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0165	0.0167	1.07%	20%	—
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	—
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	—
		Boron, total	7440-42-8	E420	0.010	mg/L	0.945	0.916	3.06%	20%	—
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	—
		Calcium, total	7440-70-2	E420	0.050	mg/L	50.7	48.8	3.90%	20%	—
		Cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	—
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00020	0.00021	0.000008	Diff <2x LOR	—
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	—
		Iron, total	7439-89-6	E420	0.010	mg/L	0.054	0.055	0.0002	Diff <2x LOR	—
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	—
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0702	0.0721	2.74%	20%	—
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	40.4	40.1	0.692%	20%	—
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00678	0.00683	0.772%	20%	—
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00252	0.00254	0.858%	20%	—
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00053	0.00052	0.000010	Diff <2x LOR	—
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	—
		Potassium, total	7440-09-7	E420	0.050	mg/L	9.58	9.80	2.28%	20%	—
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00349	0.00356	1.88%	20%	—
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	—
		Silicon, total	7440-21-3	E420	0.10	mg/L	5.59	5.71	2.11%	20%	—
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—
		Sodium, total	7440-23-5	E420	0.050	mg/L	213	212	0.495%	20%	—
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.461	0.470	1.92%	20%	—

Sub-Matrix: Water

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1100978) - continued											
WP2320204-001	Anonymous	Sulfur, total	7704-34-9	E420	0.50	mg/L	90.6	90.9	0.397%	20%	—
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	—
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	—
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00132	0.00136	2.78%	20%	—
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	—
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0035	0.0030	0.0005	Diff <2x LOR	—
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	—
Total Metals (QC Lot: 1103430)											
WP2320414-006	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.197	0.169	15.0%	20%	—
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00017	0.00015	0.00002	Diff <2x LOR	—
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00420	0.00423	0.796%	20%	—
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0600	0.0593	1.10%	20%	—
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	—
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	—
		Boron, total	7440-42-8	E420	0.010	mg/L	0.121	0.118	2.76%	20%	—
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000103	0.0000080	0.0000023	Diff <2x LOR	—
		Calcium, total	7440-70-2	E420	0.050	mg/L	71.8	70.5	1.80%	20%	—
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000042	0.000038	0.000004	Diff <2x LOR	—
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	—
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00034	0.00031	0.00003	Diff <2x LOR	—
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00161	0.00155	0.00007	Diff <2x LOR	—
		Iron, total	7439-89-6	E420	0.010	mg/L	0.335	0.318	5.16%	20%	—
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000254	0.000241	0.000013	Diff <2x LOR	—
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0705	0.0654	7.51%	20%	—
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	39.6	38.2	3.84%	20%	—
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.119	0.116	1.97%	20%	—
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00209	0.00209	0.219%	20%	—
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00254	0.00242	0.00012	Diff <2x LOR	—
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.196	0.180	0.016	Diff <2x LOR	—
		Potassium, total	7440-09-7	E420	0.050	mg/L	7.28	7.18	1.41%	20%	—

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: 1103430) - continued											
WP2320414-006	Anonymous	Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00318	0.00311	2.14%	20%	—
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000482	0.000509	0.000026	Diff <2x LOR	—
		Silicon, total	7440-21-3	E420	0.10	mg/L	10.2	10.0	1.87%	20%	—
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—
		Sodium, total	7440-23-5	E420	0.050	mg/L	48.3	47.0	2.81%	20%	—
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.311	0.314	0.926%	20%	—
		Sulfur, total	7704-34-9	E420	0.50	mg/L	57.2	56.6	1.05%	20%	—
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	—
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000012	<0.000010	0.000002	Diff <2x LOR	—
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.00544	0.00461	16.5%	20%	—
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00172	0.00169	2.19%	20%	—
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00218	0.00193	0.00025	Diff <2x LOR	—
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0033	<0.0030	0.0003	Diff <2x LOR	—
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	0.00026	0.00022	0.00004	Diff <2x LOR	—
Dissolved Metals (QC Lot: 1103670)											
WP2318866-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	—
Aggregate Organics (QC Lot: 1100964)											
WP2320177-001	Anonymous	Biochemical oxygen demand [BOD]	—	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	—
Aggregate Organics (QC Lot: 1100966)											
WP2320279-003	Anonymous	Carbonaceous biochemical oxygen demand [CBOD]	—	E555	50.0	mg/L	158	138	14.2%	30%	—
Aggregate Organics (QC Lot: 1102202)											
WP2320685-004	Anonymous	Carbonaceous biochemical oxygen demand [CBOD]	—	E555	2.0	mg/L	<2.0	<2.0	0.0%	30%	—
Aggregate Organics (QC Lot: 1102203)											
WP2320605-001	Anonymous	Biochemical oxygen demand [BOD]	—	E550	6.0	mg/L	46.4	48.6	4.6%	30%	—
Aggregate Organics (QC Lot: 1104027)											
TY2308288-002	Anonymous	Phenols, total (4AAP)	—	E562	0.0100	mg/L	0.0146	0.0170	0.0024	Diff <2x LOR	—
Aggregate Organics (QC Lot: 1106565)											
TY2308407-005	Anonymous	Phenols, total (4AAP)	—	E562	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	—

Qualifiers

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.

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: 1099175)						
Conductivity	—	E100	1	µS/cm	<1.0	—
Physical Tests (QCLot: 1099962)						
Solids, total suspended [TSS]	—	E160	3	mg/L	<3.0	—
Physical Tests (QCLot: 1101708)						
Conductivity	—	E100	1	µS/cm	<1.0	—
Physical Tests (QCLot: 1102301)						
Solids, total suspended [TSS]	—	E160	3	mg/L	<3.0	—
Anions and Nutrients (QCLot: 1099001)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	—
Anions and Nutrients (QCLot: 1099002)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	—
Anions and Nutrients (QCLot: 1099003)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	—
Anions and Nutrients (QCLot: 1099004)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	—
Anions and Nutrients (QCLot: 1099953)						
Phosphorus, total	7723-14-0	E372	0.02	mg/L	<0.020	—
Anions and Nutrients (QCLot: 1101567)						
Ammonia, total (as N)	7664-41-7	E303	0.01	mg/L	<0.010	—
Anions and Nutrients (QCLot: 1101832)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	—
Anions and Nutrients (QCLot: 1101833)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	—
Anions and Nutrients (QCLot: 1101834)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	—
Anions and Nutrients (QCLot: 1101835)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	—
Anions and Nutrients (QCLot: 1102353)						
Phosphorus, total	7723-14-0	E372	0.02	mg/L	<0.020	—
Anions and Nutrients (QCLot: 1102413)						
Ammonia, total (as N)	7664-41-7	E303	0.01	mg/L	<0.010	—
Organic / Inorganic Carbon (QCLot: 1099027)						

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1099027) - continued						
Carbon, total organic [TOC]	—	E355-L	0.5	mg/L	<0.50	—
Organic / Inorganic Carbon (QCLot: 1101685)						
Carbon, total organic [TOC]	—	E355-L	0.5	mg/L	<0.50	—
Organic / Inorganic Carbon (QCLot: 1105180)						
Carbon, total organic [TOC]	—	E355-L	0.5	mg/L	<0.50	—
Microbiological Tests (QCLot: 1099698)						
Coliforms, thermotolerant [fecal]	—	E010.FC-H	10	MPN/100mL	<10	—
Total Metals (QCLot: 1100978)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	—
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	—
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	—
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	—
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	—
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	—
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	—
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	—
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	—
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	—
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	—
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	—
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	—
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	—
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	—
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	—
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	—
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	—
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	—
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	—
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	—
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	—
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	—
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	—
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	—

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1100978) - continued						
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	—
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	—
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	—
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	—
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	—
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	—
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	—
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	—
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	—
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	—
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	—
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	—
Total Metals (QCLot: 1103430)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	—
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	—
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	—
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	—
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	—
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	—
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	—
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	—
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	—
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	—
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	—
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	—
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	—
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	—
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	—
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	—
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	—
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	—
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	—
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	—

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1103430) - continued						
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	—
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	—
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	—
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	—
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	—
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	—
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	—
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	—
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	—
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	—
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	—
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	—
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	—
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	—
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	—
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	—
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	—
Dissolved Metals (QCLot: 1103670)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	—
Aggregate Organics (QCLot: 1100964)						
Biochemical oxygen demand [BOD]	—	E550	2	mg/L	<2.0	—
Aggregate Organics (QCLot: 1100966)						
Carbonaceous biochemical oxygen demand [CBOD]	—	E555	2	mg/L	<2.0	—
Aggregate Organics (QCLot: 1102202)						
Carbonaceous biochemical oxygen demand [CBOD]	—	E555	2	mg/L	<2.0	—
Aggregate Organics (QCLot: 1102203)						
Biochemical oxygen demand [BOD]	—	E550	2	mg/L	<2.0	—
Aggregate Organics (QCLot: 1104027)						
Phenols, total (4AAP)	—	E562	0.001	mg/L	<0.0010	—
Aggregate Organics (QCLot: 1106565)						
Phenols, total (4AAP)	—	E562	0.001	mg/L	<0.0010	—
Aggregate Organics (QCLot: 1108626)						
Oil & grease (gravimetric)	—	E567	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	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1099174)									
pH	—	E108	—	pH units	7 pH units	100	98.0	102	—
Physical Tests (QCLot: 1099175)									
Conductivity	—	E100	1	µS/cm	1412 µS/cm	99.4	90.0	110	—
Physical Tests (QCLot: 1099962)									
Solids, total suspended [TSS]	—	E160	3	mg/L	150 mg/L	102	85.0	115	—
Physical Tests (QCLot: 1101707)									
pH	—	E108	—	pH units	7 pH units	100	98.0	102	—
Physical Tests (QCLot: 1101708)									
Conductivity	—	E100	1	µS/cm	1412 µS/cm	100	90.0	110	—
Physical Tests (QCLot: 1102301)									
Solids, total suspended [TSS]	—	E160	3	mg/L	150 mg/L	91.1	85.0	115	—
Anions and Nutrients (QCLot: 1099001)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	101	90.0	110	—
Anions and Nutrients (QCLot: 1099002)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	104	90.0	110	—
Anions and Nutrients (QCLot: 1099003)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	—
Anions and Nutrients (QCLot: 1099004)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	—
Anions and Nutrients (QCLot: 1099953)									
Phosphorus, total	7723-14-0	E372	0.02	mg/L	0.5 mg/L	91.5	80.0	120	—
Anions and Nutrients (QCLot: 1101567)									
Ammonia, total (as N)	7664-41-7	E303	0.01	mg/L	0.25 mg/L	97.4	85.0	115	—
Anions and Nutrients (QCLot: 1101832)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	100	90.0	110	—
Anions and Nutrients (QCLot: 1101833)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	—
Anions and Nutrients (QCLot: 1101834)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	—
Anions and Nutrients (QCLot: 1101835)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	97.9	90.0	110	—

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Anions and Nutrients (QCLot: 1102353)									
Phosphorus, total	7723-14-0	E372	0.02	mg/L	0.5 mg/L	91.2	80.0	120	—
Anions and Nutrients (QCLot: 1102413)									
Ammonia, total (as N)	7664-41-7	E303	0.01	mg/L	0.25 mg/L	98.4	85.0	115	—
Organic / Inorganic Carbon (QCLot: 1099027)									
Carbon, total organic [TOC]	—	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	—
Organic / Inorganic Carbon (QCLot: 1101685)									
Carbon, total organic [TOC]	—	E355-L	0.5	mg/L	8.57 mg/L	102	80.0	120	—
Organic / Inorganic Carbon (QCLot: 1105180)									
Carbon, total organic [TOC]	—	E355-L	0.5	mg/L	8.57 mg/L	102	80.0	120	—
Total Metals (QCLot: 1100978)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	102	80.0	120	—
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	103	80.0	120	—
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	101	80.0	120	—
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	106	80.0	120	—
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	93.0	80.0	120	—
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	99.3	80.0	120	—
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	93.2	80.0	120	—
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	100	80.0	120	—
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	101	80.0	120	—
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	104	80.0	120	—
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	98.3	80.0	120	—
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	99.3	80.0	120	—
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.2	80.0	120	—
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	97.1	80.0	120	—
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	97.9	80.0	120	—
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	91.8	80.0	120	—
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	103	80.0	120	—
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	95.6	80.0	120	—
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	105	80.0	120	—
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	96.1	80.0	120	—
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	110	80.0	120	—
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	97.4	80.0	120	—
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	108	80.0	120	—
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	94.5	80.0	120	—

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Total Metals (QCLot: 1100978) - continued									
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	102	80.0	120	—
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	97.5	80.0	120	—
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	98.3	80.0	120	—
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101	80.0	120	—
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	98.6	80.0	120	—
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	99.4	80.0	120	—
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	99.9	80.0	120	—
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	97.6	80.0	120	—
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	102	80.0	120	—
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	98.9	80.0	120	—
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	101	80.0	120	—
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	100	80.0	120	—
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	101	80.0	120	—
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	97.8	80.0	120	—
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	99.9	80.0	120	—
Total Metals (QCLot: 1103430)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	98.9	80.0	120	—
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	101	80.0	120	—
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	105	80.0	120	—
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	—
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	90.1	80.0	120	—
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	103	80.0	120	—
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	84.7	80.0	120	—
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	101	80.0	120	—
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	102	80.0	120	—
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	100	80.0	120	—
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	98.6	80.0	120	—
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	—
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	—
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	98.2	80.0	120	—
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	101	80.0	120	—
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	95.1	80.0	120	—
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	102	80.0	120	—
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	—
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	101	80.0	120	—
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	103	80.0	120	—

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1103430) - continued									
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	107	80.0	120	—
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	102	80.0	120	—
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	—
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	100	80.0	120	—
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	98.5	80.0	120	—
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	95.7	80.0	120	—
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	98.2	80.0	120	—
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	100	80.0	120	—
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	89.4	80.0	120	—
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	95.0	80.0	120	—
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	100	80.0	120	—
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	96.7	80.0	120	—
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	100	80.0	120	—
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	98.4	80.0	120	—
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	100	80.0	120	—
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	102	80.0	120	—
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	103	80.0	120	—
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	101	80.0	120	—
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	92.9	80.0	120	—
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0.0001 mg/L	98.0	80.0	120	—
Aggregate Organics (QCLot: 1100964)									
Biochemical oxygen demand [BOD]	—	E550	2	mg/L	198 mg/L	100	85.0	115	—
Aggregate Organics (QCLot: 1100966)									
Carbonaceous biochemical oxygen demand [CBOD]	—	E555	2	mg/L	198 mg/L	91.3	85.0	115	—
Aggregate Organics (QCLot: 1102202)									
Carbonaceous biochemical oxygen demand [CBOD]	—	E555	2	mg/L	198 mg/L	103	85.0	115	—
Aggregate Organics (QCLot: 1102203)									
Biochemical oxygen demand [BOD]	—	E550	2	mg/L	198 mg/L	103	85.0	115	—
Aggregate Organics (QCLot: 1104027)									
Phenols, total (4AAP)	—	E562	0.001	mg/L	0.02 mg/L	104	85.0	115	—
Aggregate Organics (QCLot: 1106565)									
Phenols, total (4AAP)	—	E562	0.001	mg/L	0.02 mg/L	98.7	85.0	115	—
Aggregate Organics (QCLot: 1108626)									
Oil & grease (gravimetric)	—	E567	5	mg/L	100 mg/L	99.6	70.0	130	—

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier

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: 1099002)										
WP2320349-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	2.80 mg/L	2.5 mg/L	112	75.0	125	—
Anions and Nutrients (QCLot: 1099003)										
WP2320349-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	105 mg/L	100 mg/L	105	75.0	125	—
Anions and Nutrients (QCLot: 1099004)										
WP2320349-001	Anonymous	Chloride	16887-00-6	E235.Cl	110 mg/L	100 mg/L	110	75.0	125	—
Anions and Nutrients (QCLot: 1099953)										
WP2320414-001	Anonymous	Phosphorus, total	7723-14-0	E372	0.227 mg/L	0.25 mg/L	90.7	70.0	130	—
Anions and Nutrients (QCLot: 1101567)										
WP2320437-001	Anonymous	Ammonia, total (as N)	7664-41-7	E303	0.234 mg/L	0.25 mg/L	93.5	75.0	125	—
Anions and Nutrients (QCLot: 1101833)										
WP2320730-007	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	113 mg/L	100 mg/L	113	75.0	125	—
Anions and Nutrients (QCLot: 1102353)										
WP2320598-002	Anonymous	Phosphorus, total	7723-14-0	E372	ND mg/L	0.25 mg/L	ND	70.0	130	—
Anions and Nutrients (QCLot: 1102413)										
WP2320719-004	Anonymous	Ammonia, total (as N)	7664-41-7	E303	0.230 mg/L	0.25 mg/L	92.2	75.0	125	—
Organic / Inorganic Carbon (QCLot: 1099027)										
WP2320256-001	Anonymous	Carbon, total organic [TOC]	—	E355-L	4.91 mg/L	5 mg/L	98.2	70.0	130	—
Organic / Inorganic Carbon (QCLot: 1101685)										
WP2320535-002	Anonymous	Carbon, total organic [TOC]	—	E355-L	4.82 mg/L	5 mg/L	96.4	70.0	130	—
Organic / Inorganic Carbon (QCLot: 1105180)										
WP2320947-002	Anonymous	Carbon, total organic [TOC]	—	E355-L	ND mg/L	5 mg/L	ND	70.0	130	—
Total Metals (QCLot: 1100978)										
WP2320204-001	Anonymous	Aluminum, total	7429-90-5	E420	0.198 mg/L	0.2 mg/L	99.1	70.0	130	—
		Antimony, total	7440-36-0	E420	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	—
		Arsenic, total	7440-38-2	E420	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	—
		Barium, total	7440-39-3	E420	0.0191 mg/L	0.02 mg/L	95.4	70.0	130	—
		Beryllium, total	7440-41-7	E420	0.0365 mg/L	0.04 mg/L	91.4	70.0	130	—
		Bismuth, total	7440-69-9	E420	0.00844 mg/L	0.01 mg/L	84.4	70.0	130	—

Sub-Matrix: Water

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Matrix Spike (MS) Report: Spike Concentration	Spike Target	Recovery (%) MS	Recovery Limits (%) Low	Recovery Limits (%) High	Qualifier
Total Metals (QCLot: 1100978) - continued										
WP2320204-001	Anonymous	Boron, total	7440-42-8	E420	ND mg/L	0.1 mg/L	ND	70.0	130	—
		Cadmium, total	7440-43-9	E420	0.00364 mg/L	0.004 mg/L	90.9	70.0	130	—
		Calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	—
		Cesium, total	7440-46-2	E420	0.00979 mg/L	0.01 mg/L	97.9	70.0	130	—
		Chromium, total	7440-47-3	E420	0.0378 mg/L	0.04 mg/L	94.5	70.0	130	—
		Cobalt, total	7440-48-4	E420	0.0184 mg/L	0.02 mg/L	92.2	70.0	130	—
		Copper, total	7440-50-8	E420	0.0176 mg/L	0.02 mg/L	88.1	70.0	130	—
		Iron, total	7439-89-6	E420	1.85 mg/L	2 mg/L	92.6	70.0	130	—
		Lead, total	7439-92-1	E420	0.0169 mg/L	0.02 mg/L	84.4	70.0	130	—
		Lithium, total	7439-93-2	E420	0.0830 mg/L	0.1 mg/L	83.0	70.0	130	—
		Magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	—
		Manganese, total	7439-96-5	E420	0.0187 mg/L	0.02 mg/L	93.6	70.0	130	—
		Molybdenum, total	7439-98-7	E420	0.0197 mg/L	0.02 mg/L	98.7	70.0	130	—
		Nickel, total	7440-02-0	E420	0.0353 mg/L	0.04 mg/L	88.2	70.0	130	—
		Phosphorus, total	7723-14-0	E420	10.5 mg/L	10 mg/L	105	70.0	130	—
		Potassium, total	7440-09-7	E420	ND mg/L	4 mg/L	ND	70.0	130	—
		Rubidium, total	7440-17-7	E420	0.0198 mg/L	0.02 mg/L	99.2	70.0	130	—
		Selenium, total	7782-49-2	E420	0.0374 mg/L	0.04 mg/L	93.6	70.0	130	—
		Silicon, total	7440-21-3	E420	9.98 mg/L	10 mg/L	99.8	70.0	130	—
		Silver, total	7440-22-4	E420	0.00368 mg/L	0.004 mg/L	92.0	70.0	130	—
		Sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	—
		Strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—
		Sulfur, total	7704-34-9	E420	ND mg/L	20 mg/L	ND	70.0	130	—
		Tellurium, total	13494-80-9	E420	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	—
		Thallium, total	7440-28-0	E420	0.00342 mg/L	0.004 mg/L	85.6	70.0	130	—
		Thorium, total	7440-29-1	E420	0.0178 mg/L	0.02 mg/L	89.0	70.0	130	—
		Tin, total	7440-31-5	E420	0.0193 mg/L	0.02 mg/L	96.5	70.0	130	—
		Titanium, total	7440-32-6	E420	0.0402 mg/L	0.04 mg/L	101	70.0	130	—
		Tungsten, total	7440-33-7	E420	0.0182 mg/L	0.02 mg/L	90.8	70.0	130	—
		Uranium, total	7440-61-1	E420	0.00357 mg/L	0.004 mg/L	89.2	70.0	130	—
		Vanadium, total	7440-62-2	E420	0.0994 mg/L	0.1 mg/L	99.4	70.0	130	—
		Zinc, total	7440-66-6	E420	0.360 mg/L	0.4 mg/L	90.0	70.0	130	—
		Zirconium, total	7440-67-7	E420	0.0401 mg/L	0.04 mg/L	100	70.0	130	—
Total Metals (QCLot: 1103430)										
WP2320414-006	Anonymous	Aluminum, total	7429-90-5	E420	0.214 mg/L	0.2 mg/L	107	70.0	130	—

Sub-Matrix: Water

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1103430) - continued										
WP2320414-006	Anonymous	Antimony, total	7440-36-0	E420	0.0203 mg/L	0.02 mg/L	102	70.0	130	—
		Arsenic, total	7440-38-2	E420	0.0210 mg/L	0.02 mg/L	105	70.0	130	—
		Barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—
		Beryllium, total	7440-41-7	E420	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	—
		Bismuth, total	7440-69-9	E420	0.00970 mg/L	0.01 mg/L	97.0	70.0	130	—
		Boron, total	7440-42-8	E420	ND mg/L	0.1 mg/L	ND	70.0	130	—
		Cadmium, total	7440-43-9	E420	0.00393 mg/L	0.004 mg/L	98.3	70.0	130	—
		Calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	—
		Cesium, total	7440-46-2	E420	0.0102 mg/L	0.01 mg/L	102	70.0	130	—
		Chromium, total	7440-47-3	E420	0.0420 mg/L	0.04 mg/L	105	70.0	130	—
		Cobalt, total	7440-48-4	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	—
		Copper, total	7440-50-8	E420	0.0192 mg/L	0.02 mg/L	96.1	70.0	130	—
		Iron, total	7439-89-6	E420	2.07 mg/L	2 mg/L	104	70.0	130	—
		Lead, total	7439-92-1	E420	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	—
		Lithium, total	7439-93-2	E420	0.0917 mg/L	0.1 mg/L	91.7	70.0	130	—
		Magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	—
		Manganese, total	7439-96-5	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—
		Molybdenum, total	7439-98-7	E420	0.0215 mg/L	0.02 mg/L	108	70.0	130	—
		Nickel, total	7440-02-0	E420	0.0394 mg/L	0.04 mg/L	98.6	70.0	130	—
		Phosphorus, total	7723-14-0	E420	10.6 mg/L	10 mg/L	106	70.0	130	—
		Potassium, total	7440-09-7	E420	ND mg/L	4 mg/L	ND	70.0	130	—
		Rubidium, total	7440-17-7	E420	0.0209 mg/L	0.02 mg/L	105	70.0	130	—
		Selenium, total	7782-49-2	E420	0.0437 mg/L	0.04 mg/L	109	70.0	130	—
		Silicon, total	7440-21-3	E420	ND mg/L	10 mg/L	ND	70.0	130	—
		Silver, total	7440-22-4	E420	0.00404 mg/L	0.004 mg/L	101	70.0	130	—
		Sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	—
		Strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—
		Sulfur, total	7704-34-9	E420	ND mg/L	20 mg/L	ND	70.0	130	—
		Tellurium, total	13494-80-9	E420	0.0369 mg/L	0.04 mg/L	92.2	70.0	130	—
		Thallium, total	7440-28-0	E420	0.00377 mg/L	0.004 mg/L	94.2	70.0	130	—
		Thorium, total	7440-29-1	E420	0.0198 mg/L	0.02 mg/L	98.9	70.0	130	—
		Tin, total	7440-31-5	E420	0.0205 mg/L	0.02 mg/L	102	70.0	130	—
		Titanium, total	7440-32-6	E420	0.0424 mg/L	0.04 mg/L	106	70.0	130	—
		Tungsten, total	7440-33-7	E420	0.0200 mg/L	0.02 mg/L	100	70.0	130	—
		Uranium, total	7440-61-1	E420	0.00378 mg/L	0.004 mg/L	94.6	70.0	130	—

Sub-Matrix: Water

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1103430) - continued										
WP2320414-006	Anonymous	Vanadium, total	7440-62-2	E420	0.110 mg/L	0.1 mg/L	110	70.0	130	—
		Zinc, total	7440-66-6	E420	0.381 mg/L	0.4 mg/L	95.3	70.0	130	—
		Zirconium, total	7440-67-7	E420	0.0424 mg/L	0.04 mg/L	106	70.0	130	—
Dissolved Metals (QCLot: 1103670)										
WP2318866-005	Anonymous	Mercury, dissolved	7439-97-6	E509	0.000101 mg/L	0.0001 mg/L	101	70.0	130	—
Aggregate Organics (QCLot: 1104027)										
TY2308288-002	Anonymous	Phenols, total (4AAP)	—	E562	0.206 mg/L	0.2 mg/L	103	75.0	125	—
Aggregate Organics (QCLot: 1106565)										
TY2308407-005	Anonymous	Phenols, total (4AAP)	—	E562	0.0996 mg/L	0.1 mg/L	99.6	75.0	125	—

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 15 -

Affix ALS barcode label here (lab use only)

Page 1 of 1

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	
Company:	Hamlet of Chesterfield Inlet	Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Contact:	Don Tanuyak	Quality Control (QC) Report with Report	☐ YES ☐ NO
Phone:	867-898-9939	☐ Compare Results to Criteria on Report - provide details below if box checked	
	Company address below will appear on the final report	Select Distribution:	☐ EMAIL ☐ MAIL ☐ FAX
Street:	PO Box 10	Email 1 or Fax	chester_foreman@qiniq.com
City/Province:	Chesterfield Inlet, NU	Email 2	mgavin@gov.nu.ca
Postal Code:	X0C 0B0	Email 3	mlusty@gov.nu.ca
Invoice To	Same as Report To ☑ YES ☐ NO	Invoice Distribution	
	Copy of Invoice with Report ☑ YES ☐ NO	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Company:		Email 1 or Fax	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:	W10621	AFE/Cost Center:	PO#
Job #:		Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler:

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

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

PRIORITY (Business Days): 4 day [P4] ☐ | 3 day [P3] ☐ | 2 day [P2] ☐

EMERGENCY: 1 Business day [E1] ☐ | Sa... weekend or ... ☐

Date and Time Required for all E&P TATs:

For tests that can not be performed according to the service le...

Analysis R...

Indicate Filtered (F), Preserved (P) or Filtered...

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD	Routine	CBOD	Total Metals	Total Mercury	Nutrients/Phenols (x2)	Bacteria	Oil & Grease (x2)	BTEX-F1 (x3)	F2-F4 (x2)	PAH (x2)			
	CHE-2 – No run off.	21/08/23	~~10:45~~	Effluent	R	R	R	R	R	R	R	R	R	R	R			17
	CHE-3	21/08/23	11:00	Effluent	R	R	R	R	R	R	R	R						10
	CHE-3a		11:00	Effluent	R	R	R	R	R	R	R	R						10
	CHE-4	21/08/23	10:30	Effluent	R	R	R	R	R	R	R	R						10

Environmental Division Winnipeg
Work Order Reference
WP2320341
Telephone : +1 204 255 9720

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☑ NO	NUNAVUT-WW-GRP1-WP, BTEX, F1-F4, PAH
Are samples for human drinking water use? ☐ YES ☑ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			11.1		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Aaron Pooley	Date: Aug. 21/2023	Time: 12:15	Received by: SL	Date: AUG 22 2023	Time: 12.1	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

OCTOBER 2015 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Sample Intake

Client: Chesterfield Inlet					
Cheque Enclosed with cofc	Yes		(No)		
Priority/Emergency Required (circle one)	Yes		~~No~~		
Time Sensitive Hold Time (circle one)	~~Yes~~		No		
Matrix (circle one)	(Water)	Soil/solid	Air	Biota	Other
# of Bottles received: 2 Fractions					

Green/White	6	Yellow/Black	3 (Viral)
Purple/White	4	Light blue/White	2
Warm red/White	2	Orange/Black	
Dark Green/White		Dark Blue/White	
Other:			
Additional Comments:			

Login Check Check yes if you have verified the following:

	Yes	N/A
Received date/time		
Project/PO/LSD		
Quote/Office match cofc		
Sample IDs/Description		
Sample Date/time		
Sales Items as per cofc		
Express Due Dates		
Client due date matches ALS Due date		
Client recipient emails		
Guidelines/thresholds added		
~~Billing/payment recorded~~		
Field data entered		
Sub-contracting Forms Printed		
SUBCO/Chromatograph added to client contacts for required analysis		
Are sub-samples required?		
Has a SIF been submitted for this WO?		
Has the SIF been resolved?		