Water Licence Inspection Report

☒Original
☐Follow-Up Report

Authorization	Representative
Agnico Eagle Mines Ltd.	**Rowan Woodall**
Authorization No. / Expiry	**Representative's Title**
2AM-WTP1830/March 27, 2030	**Environment Coordinator**
Inspection Date	**Inspector**
November 1, 2024	**RMO Kyle Amsel**
Other Authorization/s	
66H/08-01 Quarries, 66H/08-02 Haul Road	
Activities Inspected	
☒ **Camp, Commercial** ☐ **Drilling** ☒ **Mining** ☒ **Construction** ☐ **Reclamation** ☒ **Fuel Storage** ☒ **Roads/Hauling** ☐ **Winter Hauling** ☐ **Camp, Private** ☐ **Other** Click or tap here to enter text.	

Section 1 Comments

On November 1, 2024 Resource Management Officer Kyle Amsel (Inspector) of Crown-Indigenous Relations and Northern Affairs Canada conducted an inspection of Water Licence 2AM-WTP1830 (Licence). The licence is issued to Agnico Eagle Mines Limited (Licensee) for the use of waters and deposit of wastes in support of a mining undertaking (Undertaking).

Accompanying the Inspector was Environment Coordinator, Rowan Woodall.

Preliminary Information

The purpose of the Inspection was collection of compliance water samples from the discharge of ST-WT-24.

Observations

1. Water samples at ST-WT-24 were collected on Inspection date at 0845hrs.
   Discharge Criteria under Part F Item 5 is:

Parameter	Unit	Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Grab Sample
Conventional Constituents			
pH		6.0 to 9.5	6.0 to 9.5
Total Suspended Solids TSS	mg/L	15	30
Nutrients			
Total Ammonia (NH_3-N)	mg-N/L	16	32
Total Phosphorous (P)	mg-P/L	0.3	0.6
Total Metals			
Aluminum (Al)	mg/L	0.5	1.0
Arsenic (As)	mg/L	0.1	0.2
Cadmium (Cd)	mg/L	0.002	0.004
Chromium (Cr)	mg/L	0.02	0.04
Copper (Cu)	mg/L	0.1	0.2
Iron (Fe)	mg/L	1.0	2.0
Lead (Pb)	mg/L	0.05	0.1
Mercury (Hg)	mg/L	0.004	0.008
Nickel (Ni)	mg/L	0.25	0.5
Zinc (Zn)	mg/L	0.1	0.2
Other			
Total Petroleum Hydrocarbons (TPH)	mg/L	3.0	6.0

   Result of water samples where within criteria and attached as Appendix A to this report.

Section 2 Non-Compliance

No items of non-compliance identified

Section 3 Action Required

No actions required

Section 4 Other

Licensee or Representative	Inspector's Name
Rowan Woodall signed to acknowledge reception	RMO Kyle Amsel
Signature	**Signature**
Rowan Woodall	
Date	**Date**
November 22, 2024	November 21, 2024

Office Use Only: Follow-up report to be issued by Inspector ☐ Yes ☐ No

Appendix A

CERTIFICATE OF ANALYSIS

Work Order	:	**WP2425575**			
Client	:	**Crown-Indigenous Relations and Northern Affairs Canada**	Laboratory	:	ALS Environmental - Winnipeg
Contact	:	KYLE AMSEL	Account Manager	:	Daniel Rocha
Address	:	Water Resources PO Box 100 Iqaluit Nunavut Canada X0A 0H0	Address	:	1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	:	----	Telephone	:	+1 204 255 9720
Project	:	----	Date Samples Received	:	05-Nov-2024 13:56
PO	:	----	Date Analysis Commenced	:	06-Nov-2024
C-O-C number	:	----	Issue Date	:	14-Nov-2024 09:24
Sampler	:	----			
Site	:	----			
Quote number	:	2024 Analytical Testing			
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
- Surrogate Control Limits

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*
Lee McTavish		Inorganics, Winnipeg, Manitoba
Lee McTavish		Metals, Winnipeg, Manitoba
Livia Ciolan	Analyst	Organics, Winnipeg, Manitoba
Michelle Michalchuk	Analyst	Organics, Winnipeg, Manitoba
Ryan Velasco		Organics, 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*
mg/L	milligrams per litre
µg/L	micrograms per litre

<: 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.

Analytical Results

Sub-Matrix: Water (Matrix: Water)			Client sample ID		ST-8 Meadow bank	ST-WT-24 Whale Tale	----	----	----
			Client sampling date / time		31-Oct-2024 17:39	01-Nov-2024 08:45	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WP2425575-001	WP2425575-002	----	----	----
					Result	Result	----	----	----
Physical Tests									
Solids, total suspended [TSS]	----	E160/WP	3.0	mg/L	<3.0	<3.0	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/WP	0.0050	mg/L	----	0.768	----	----	----
Phosphorus, total	7723-14-0	E372-U/WP	0.0020	mg/L	----	0.0030	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/WP	0.0030	mg/L	----	0.0057	----	----	----
Antimony, total	7440-36-0	E420/WP	0.00010	mg/L	----	0.0170	----	----	----
Arsenic, total	7440-38-2	E420/WP	0.00010	mg/L	----	0.0401	----	----	----
Barium, total	7440-39-3	E420/WP	0.00010	mg/L	----	0.0713	----	----	----
Beryllium, total	7440-41-7	E420/WP	0.000020	mg/L	----	0.0000015	----	----	----
Bismuth, total	7440-69-9	E420/WP	0.000050	mg/L	----	Not Detected	----	----	----
Boron, total	7440-42-8	E420/WP	0.010	mg/L	----	0.052	----	----	----
Cadmium, total	7440-43-9	E420/WP	0.0000050	mg/L	----	0.0000194	----	----	----
Calcium, total	7440-70-2	E420/WP	0.050	mg/L	----	66.4	----	----	----
Cesium, total	7440-46-2	E420/WP	0.000010	mg/L	----	0.000128	----	----	----
Chromium, total	7440-47-3	E420/WP	0.00050	mg/L	----	0.00014	----	----	----
Cobalt, total	7440-48-4	E420/WP	0.00010	mg/L	----	0.00224	----	----	----
Copper, total	7440-50-8	E420/WP	0.00050	mg/L	----	0.00131	----	----	----
Iron, total	7439-89-6	E420/WP	0.010	mg/L	----	0.420	----	----	----
Lead, total	7439-92-1	E420/WP	0.000050	mg/L	----	0.000023	----	----	----
Lithium, total	7439-93-2	E420/WP	0.0010	mg/L	----	0.0101	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	ST-8 Meadow bank	ST-WT-24 Whale Tale	----	----	----
					Client sampling date / time	31-Oct-2024 17:39	01-Nov-2024 08:45	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2425575-001	WP2425575-002	----	----	----
						Result	Result	----	----	----
Total Metals										
Magnesium, total	7439-95-4	E420/WP	0.0050	mg/L		----	19.0	----	----	----
Manganese, total	7439-96-5	E420/WP	0.00010	mg/L		----	0.179	----	----	----
Molybdenum, total	7439-98-7	E420/WP	0.000050	mg/L		----	0.00924	----	----	----
Nickel, total	7440-02-0	E420/WP	0.00050	mg/L		----	0.0384	----	----	----
Phosphorus, total	7723-14-0	E420/WP	0.050	mg/L		----	0.016	----	----	----
Potassium, total	7440-09-7	E420/WP	0.050	mg/L		----	15.6	----	----	----
Rubidium, total	7440-17-7	E420/WP	0.00020	mg/L		----	0.0191	----	----	----
Selenium, total	7782-49-2	E420/WP	0.000050	mg/L		----	0.000436	----	----	----
Silicon, total	7440-21-3	E420/WP	0.10	mg/L		----	3.00	----	----	----
Silver, total	7440-22-4	E420/WP	0.000010	mg/L		----	Not Detected	----	----	----
Sodium, total	7440-23-5	E420/WP	0.050	mg/L		----	13.5	----	----	----
Strontium, total	7440-24-6	E420/WP	0.00020	mg/L		----	0.643	----	----	----
Sulfur, total	7704-34-9	E420/WP	0.50	mg/L		----	44.0	----	----	----
Tellurium, total	13494-80-9	E420/WP	0.00020	mg/L		----	0.00021	----	----	----
Thallium, total	7440-28-0	E420/WP	0.000010	mg/L		----	0.000025	----	----	----
Thorium, total	7440-29-1	E420/WP	0.00010	mg/L		----	Not Detected	----	----	----
Tin, total	7440-31-5	E420/WP	0.00010	mg/L		----	Not Detected	----	----	----
Titanium, total	7440-32-6	E420/WP	0.00030	mg/L		----	0.00088	----	----	----
Tungsten, total	7440-33-7	E420/WP	0.00010	mg/L		----	0.00031	----	----	----
Uranium, total	7440-61-1	E420/WP	0.000010	mg/L		----	0.00288	----	----	----
Vanadium, total	7440-62-2	E420/WP	0.00050	mg/L		----	0.00018	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	ST-8 Meadow bank	ST-WT-24 Whale Tale	----	----	----
					Client sampling date / time	31-Oct-2024 17:39	01-Nov-2024 08:45	----	----	----
						WP2425575-001	WP2425575-002	----	----	----
						Result	Result	----	----	----
Total Metals										
Zinc, total	7440-66-6	E420/WP	0.0030	mg/L		----	0.0097	----	----	----
Zirconium, total	7440-67-7	E420/WP	0.00020	mg/L		----	Not Detected	----	----	----
Volatile Organic Compounds										
Benzene	71-43-2	E611A/WP	0.00050	mg/L		----	<0.00050	----	----	----
Ethylbenzene	100-41-4	E611A/WP	0.00050	mg/L		----	<0.00050	----	----	----
Toluene	108-88-3	E611A/WP	0.00050	mg/L		----	<0.00050	----	----	----
Xylene, m+p-	179601-23-1	E611A/WP	0.00040	mg/L		----	<0.00040	----	----	----
Xylene, o-	95-47-6	E611A/WP	0.00030	mg/L		----	<0.00030	----	----	----
Xylenes, total	1330-20-7	E611A/WP	0.00050	mg/L		----	<0.00050	----	----	----
BTEX, total	----	E611A/WP	0.0010	mg/L		----	<0.0010	----	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/WP	0.10	mg/L		----	<0.10	----	----	----
F1-BTEX	----	EC580/WP	0.100	mg/L		----	<0.100	----	----	----
F2 (C10-C16)	----	E601/WP	0.10	mg/L		----	<0.10	----	----	----
F3 (C16-C34)	----	E601/WP	0.25	mg/L		----	<0.25	----	----	----
F4 (C34-C50)	----	E601/WP	0.25	mg/L		----	<0.25	----	----	----
TEH (C10-C50)	n/a	E601/WP	0.40	mg/L		----	<0.40	----	----	----
TEH (C16-C50)	----	E601/WP	0.40	mg/L		----	<0.40	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/WP	1.0	%		----	114	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	1.0	%		----	110	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	ST-8 Meadow bank	ST-WT-24 Whale Tale	----	----	----
					Client sampling date / time	31-Oct-2024 17:39	01-Nov-2024 08:45	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2425575-001	WP2425575-002	----	----	----
						Result	Result	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/WP	1.0	%		----	100	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/WP	1.0	%		----	94.8	----	----	----

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

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WP2425575**	Page	: 1 of 7
Client	: **Crown-Indigenous Relations and Northern Affairs Canada**	Laboratory	: ALS Environmental - Winnipeg
Contact	: KYLE AMSEL	Account Manager	: Daniel Rocha
Address	: Water Resources PO Box 100 Iqaluit NU Canada X0A 0H0	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: ----	Telephone	: +1 204 255 9720
Project	: ----	Date Samples Received	: 05-Nov-2024 13:56
PO	: ----	Issue Date	: 14-Nov-2024 09:24
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: 2024 Analytical Testing		
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 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)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) ST-WT-24 Whale Tale	E298	01-Nov-2024	07-Nov-2024	28 days	6 days	✓	07-Nov-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) ST-WT-24 Whale Tale	E372-U	01-Nov-2024	06-Nov-2024	28 days	5 days	✓	07-Nov-2024	28 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) ST-WT-24 Whale Tale	E581.F1	01-Nov-2024	07-Nov-2024	14 days	6 days	✓	07-Nov-2024	14 days	6 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) ST-WT-24 Whale Tale	E601	01-Nov-2024	07-Nov-2024	14 days	6 days	✓	07-Nov-2024	40 days	0 days	✓
Physical Tests : TSS by Gravimetry										
HDPE ST-WT-24 Whale Tale	E160	01-Nov-2024	----	----	----		07-Nov-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry										
HDPE ST-8 Meadow bank	E160	31-Oct-2024	----	----	----		07-Nov-2024	7 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) ST-WT-24 Whale Tale	E420	01-Nov-2024	07-Nov-2024	180 days	6 days	✓	08-Nov-2024	180 days	7 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	
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
ST-WT-24 Whale Tale	E611A	01-Nov-2024	07-Nov-2024	14 days	6 days	✓	07-Nov-2024	14 days	6 days	✓

Legend & Qualifier Definitions

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 by Fluorescence	E298	1754681	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1755476	1	18	5.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1755475	1	14	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1755504	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1753461	1	16	6.2	5.0	✓
TSS by Gravimetry	E160	1754504	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Ammonia by Fluorescence	E298	1754681	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1755476	1	18	5.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1755475	1	14	7.1	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1755728	1	14	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1755504	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1753461	1	16	6.2	5.0	✓
TSS by Gravimetry	E160	1754504	1	20	5.0	5.0	✓
Method Blanks (MB)							
Ammonia by Fluorescence	E298	1754681	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1755476	1	18	5.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1755475	1	14	7.1	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1755728	1	14	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1755504	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1753461	1	16	6.2	5.0	✓
TSS by Gravimetry	E160	1754504	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1754681	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1755476	1	18	5.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1755475	1	14	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1755504	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1753461	1	16	6.2	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
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.
Ammonia by Fluorescence	E298 ALS Environmental - Winnipeg	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 Phosphorus by Colourimetry (0.002 mg/L)	E372-U 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.
CCME PHC - F1 by Headspace GC-FID	E581.F1 ALS Environmental - Winnipeg	Water	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Winnipeg	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A ALS Environmental - Winnipeg	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
F1-BTEX	EC580 ALS Environmental - Winnipeg	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).

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.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Winnipeg	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Winnipeg	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Winnipeg	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: **WP2425575**	Page	: 1 of 10
Client	: Crown-Indigenous Relations and Northern Affairs Canada	Laboratory	: ALS Environmental - Winnipeg
Contact	: KYLE AMSEL	Account Manager	: Daniel Rocha
Address	: Water Resources PO Box 100 Iqaluit NU Canada X0A 0H0	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: ----	Telephone	: +1 204 255 9720
Project	: ----	Date Samples Received	: 05-Nov-2024 13:56
PO	: ----	Date Analysis Commenced	: 06-Nov-2024
C-O-C number	: ----	Issue Date	: 14-Nov-2024 09:24
Sampler	: ----		
Site	: ----		
Quote number	: 2024 Analytical Testing		
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*
Lee McTavish		Winnipeg Inorganics, Winnipeg, Manitoba
Lee McTavish		Winnipeg Metals, Winnipeg, Manitoba
Livia Ciolan	Analyst	Winnipeg Organics, Winnipeg, Manitoba
Michelle Michalchuk	Analyst	Winnipeg Organics, Winnipeg, Manitoba
Ryan Velasco		Winnipeg Organics, 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: 1754504)											
WP2425636-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1753461)											
WP2425541-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.268	0.320	17.8%	20%	----
Anions and Nutrients (QC Lot: 1754681)											
WP2425554-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0234	0.0235	0.0002	Diff <2x LOR	----
Total Metals (QC Lot: 1755504)											
WP2425518-001	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	0.00034	0.00033	0.000009	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0131	0.0130	0.838%	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	<0.010	<0.010	0	Diff <2x LOR	----
		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	20.9	20.9	0.0994%	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	0.00051	0.00052	0.00002	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.0113	0.0114	0.804%	20%	----
		Iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.010	0	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	0.0024	0.0023	0.00008	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	6.88	6.81	0.916%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00097	0.00105	8.69%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00218	0.00221	0.00003	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.704	0.642	9.14%	20%	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	1.13	1.12	0.845%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00172	0.00180	0.00008	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	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: 1755504) - continued											
WP2425518-001	Anonymous	Silicon, total	7440-21-3	E420	0.10	mg/L	2.00	1.99	0.339%	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	27.8	28.4	2.04%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.0412	0.0404	1.96%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	23.6	22.7	4.06%	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	<0.000010	<0.000010	0	Diff <2x LOR	----
		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	0.0041	0.0042	0.0001	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1755476)											
WP2425683-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.00040 mg/L	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.00030 mg/L	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1755475)											
WP2425683-001	Anonymous	F1 (C6-C10)	----	E581.F1	100	µg/L	<0.10 mg/L	<100	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: 1754504)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1753461)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1754681)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Total Metals (QCLot: 1755504)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1755504) - continued						
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	----
Volatile Organic Compounds (QCLot: 1755476)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1755475)						
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1755728)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----

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: 1754504)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1753461)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.5 mg/L	96.1	80.0	120	----
Anions and Nutrients (QCLot: 1754681)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	108	85.0	115	----
Total Metals (QCLot: 1755504)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	101	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	99.3	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	96.5	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	99.7	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	99.3	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	96.9	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	98.6	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	99.2	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	97.3	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	94.0	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	96.5	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	96.6	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	93.7	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	95.6	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	96.3	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	99.6	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	95.7	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	100	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	97.9	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	102	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	93.4	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	97.7	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	99.6	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	100	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: 1755504) - continued									
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	93.1	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	97.1	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	92.6	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	102	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	92.9	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	98.5	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	93.2	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.5	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	94.4	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.6	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	99.6	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	98.3	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	98.2	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	97.2	80.0	120	----
Volatile Organic Compounds (QCLot: 1755476)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	129	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	120	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	113	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	122	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	120	70.0	130	----
Hydrocarbons (QCLot: 1755475)									
F1 (C6-C10)	----	E581.F1	100	µg/L	5940 µg/L	98.7	70.0	130	----
Hydrocarbons (QCLot: 1755728)									
F2 (C10-C16)	----	E601	100	µg/L	3400 µg/L	108	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	6780 µg/L	97.7	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5840 µg/L	114	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: 1753461)										
WP2425550-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.242 mg/L	0.25 mg/L	96.8	70.0	130	----
Anions and Nutrients (QCLot: 1754681)										
WP2425554-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.107 mg/L	0.1 mg/L	107	75.0	125	----
Total Metals (QCLot: 1755504)										
WP2425518-001	Anonymous	Aluminum, total	7429-90-5	E420	0.215 mg/L	0.2 mg/L	107	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0221 mg/L	0.02 mg/L	110	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0218 mg/L	0.02 mg/L	109	70.0	130	----
		Barium, total	7440-39-3	E420	0.0222 mg/L	0.02 mg/L	111	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0418 mg/L	0.04 mg/L	104	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00987 mg/L	0.01 mg/L	98.7	70.0	130	----
		Boron, total	7440-42-8	E420	0.108 mg/L	0.1 mg/L	108	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00424 mg/L	0.004 mg/L	106	70.0	130	----
		Calcium, total	7440-70-2	E420	ND 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	0.0422 mg/L	0.04 mg/L	105	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0210 mg/L	0.02 mg/L	105	70.0	130	----
		Copper, total	7440-50-8	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Iron, total	7439-89-6	E420	2.11 mg/L	2 mg/L	106	70.0	130	----
		Lead, total	7439-92-1	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Lithium, total	7439-93-2	E420	0.104 mg/L	0.1 mg/L	104	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0212 mg/L	0.02 mg/L	106	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0221 mg/L	0.02 mg/L	111	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0416 mg/L	0.04 mg/L	104	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.2 mg/L	10 mg/L	102	70.0	130	----
		Potassium, total	7440-09-7	E420	4.22 mg/L	4 mg/L	106	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0212 mg/L	0.02 mg/L	106	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	10.2 mg/L	10 mg/L	102	70.0	130	----
		Silver, total	7440-22-4	E420	0.00419 mg/L	0.004 mg/L	105	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0433 mg/L	0.04 mg/L	108	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00398 mg/L	0.004 mg/L	99.5	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0214 mg/L	0.02 mg/L	107	70.0	130	----
		Tin, total	7440-31-5	E420	0.0220 mg/L	0.02 mg/L	110	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0438 mg/L	0.04 mg/L	109	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0220 mg/L	0.02 mg/L	110	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: 1755504) - continued										
WP2425518-001	Anonymous	Uranium, total	7440-61-1	E420	0.00413 mg/L	0.004 mg/L	103	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.107 mg/L	0.1 mg/L	107	70.0	130	----
		Zinc, total	7440-66-6	E420	0.427 mg/L	0.4 mg/L	107	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0430 mg/L	0.04 mg/L	107	70.0	130	----
Volatile Organic Compounds (QCLot: 1755476)										
WP2425683-001	Anonymous	Benzene	71-43-2	E611A	91.6 µg/L	100 µg/L	91.6	60.0	140	----
		Ethylbenzene	100-41-4	E611A	98.8 µg/L	100 µg/L	98.8	60.0	140	----
		Toluene	108-88-3	E611A	94.3 µg/L	100 µg/L	94.3	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	192 µg/L	200 µg/L	96.0	60.0	140	----
		Xylene, o-	95-47-6	E611A	96.8 µg/L	100 µg/L	96.8	60.0	140	----
Hydrocarbons (QCLot: 1755475)										
WP2425683-001	Anonymous	F1 (C6-C10)	----	E581.F1	5920 µg/L	5940 µg/L	99.7	60.0	140	----

ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 776513

Page 1 of 1

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)
Company:	CIRNAC	Select Report Format: [X] PDF [ ] EXCEL [ ] EDD (DIGITAL)	Regular [R] [ ] Standard TAT if received by 3 pm - business days - no surcharges apply
Contact:	Kyle Amsel	Quality Control (QC) Report with Report [X] YES [ ] NO	PRIORITY (Business Days): 4 day [P4-20%] [ ]; 3 day [P3-25%] [ ]; 2 day [P2-50%] [ ]
Phone:	867-875-3089	[ ] Compare Results to Criteria on Report - provide details below if box checked	EMERGENCY: 1 Business day [E - 100%] [ ]; Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] [ ]
	Company address below will appear on the final report	Select Distribution: [X] EMAIL [ ] MAIL [ ] FAX	Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm
Street:	PO Box 129	Email 1 or Fax kyle.amsel@nwtnac-cirnac.gc.ca	For tests that can not be performed according to the service level selected, you will be contacted.
City/Province:	Rankin Inlet, NU	Email 2	
Postal Code:	X0C 0G0	Email 3	
Invoice To	Same as Report To [ ] YES [X] NO	**Invoice Distribution**	
	Copy of Invoice with Report [X] YES [ ] NO	Select Invoice Distribution: [X] EMAIL [ ] MAIL [ ] FAX	
Company:	CIRNAC	Email 1 or Fax Layli.nobbe@nwtnac-cirnac.gc.ca	
Contact:	Layli Nobbe	Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:		Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):	WP2425575	ALS Contact:	Sampler:

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	NUMBER OF CONTAINERS	Analysis Request: Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below: TSS	NH_3-N	T&T Metals	BTEX F1-F4	Hexavalent Chromium	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	ST-8 Meadow bank	31/10/24	1733		1	X						
	ST-WT-24 Whale Tale	01/11/24	0845		7	X	X	X	X			

Environmental Division Winnipeg
Work Order Reference
WP2425575

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	
Are samples for human consumption/ 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			
			8.3				

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by: RS	Date: NOV 5/24	Time: 1:56	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

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: CTRNAe					**COC receipt info complete**	☐
Express TAT?	no	same day	1 day	Yes: 2 day	3 days	4 day
Short hold time?	no	<24 hrs	1 day	Yes: 2 days	3 days	4 days
Matrix	Water	Soil/solid	Air	Biota	Food/micro	Other

Total number of bottles/fractions:			
Green/white	2x 500 mL	Orange/black	
Purple/white	1x 125 mL	Dark blue/white	2x 125mL, 1x40mL
Red/white	1x 125 mL	Black/white	
Dark green/white		Brown/white	
Grey/white		Pink/white	
Yellow/black		Beige/white	
Light blue/white		Other (specify)	

Comments:
8.3 c° cold-packs

Sample Login

Receipt Window	✓/X	N/A	**Bottles**	✓/X	N/A
# of fractions, matrix and submatrix			All received bottles have IDs		
Client, office, contact, quote, project			Type, volume, and locations		
Receipt time/date, PO, project, site			Labels and internal COCs printed		
Temp, cooling method, sampler			**Client Contacts**	✓/X	N/A
Sample Info	✓/X	N/A	Report/invoice/EDD recipients		
Sample date/time			Report types/formats		
Sample ID/description			**Post-committing**	✓/X	N/A
Sales items			Runs built and field data entered		
Guidelines/thresholds			Billing information entered		
Additional sample/WO information			**Action Required?**	**Yes**	**No**
Due Dates	✓/X	N/A	Update default receipt data		
COC/GEL/client due dates match			Update default report data		
Express TAT surcharges			Add sales/billing items to quote		
Clock running for all samples			SIF initiated (elaborate in comments)		

Comments: