ANNUAL REPORT FOR THE MUNICIPALITY OF RANKIN INLET

YEAR BEING REPORTED: 2024

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence No. 3BM-RAN2025 issued to the Municipality of Rankin Inlet.

Below are tabular summaries of all data generated under the "Monitoring Program".

I. Monthly and annual quantities of freshwater obtained by daily logs for all freshwater sources and estimated sewage waste discharged.

Table 1: Summary of water obtained from all sources combined and

estimated sewage water discharge in m³

Month Reported	Quantity of Water Obtained from all sources (m ³)	Quantity of Sewage Waste Discharged (m³)
January	None	None
February	None	None
March	None	None
April	None	None
May	None	None
June	None	None
July	None	None
August	None	None
September	None	None
October	None	None
November	None	None
December	None	None
ANNUAL TOTAL	None	None

Note: The purpose of this License is the deposit of waste; there is no authorized water use.

ANNUAL REPORT FOR THE MUNICIPALITY OF RANKIN INLET

- II. A summary of modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities:
 - Batteries, empty propane tanks and waste oil are stored in shipping containers in designated areas. The Municipality works closely with Agnico Eagle to ship out hazardous waste, however due to unforeseen shipping issues in 2024, hazardous waste was not able to be back hauled. Hazardous waste is ready to be shipped to a licenced disposal facility during the 2025 shipping season.
- III. A list of unauthorized discharges and summary of follow-up action taken:
 - No unauthorized discharges for the infrastructure under licence 3BM-RAN2025 occurred in 2024.
 - List of spills reported to the NT-NU Spill Report Line as listed on the Hazardous Materials Spills Database for Rankin Inlet in 2024 available in Appendix A.
- IV. A summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year:
 - None
- V. A summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned:
 - The initial planning study for a new solid waste site was completed in Fiscal Year 2020/21. The cost estimates have indicated that the current funding cannot support the construction of a new state-of-the-art 20-year landfill. The focus of the project shifted to making improvements to the current site. A second planning contract to assess and prioritize the improvements to the current site with the available funding began in 2022 and the final report will be available in 2025.
- VI. Any other details on water use or waste disposal requested by the Board by November 1st of the year being reported; and
 - None
- VII. updates or revisions to the approved Operation and Maintenance Plans:
 - None

ANNUAL REPORT FOR THE MUNICIPALITY OF RANKIN INLET

ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

Water Licencing Sampling Points:



• No sample was taken in August as the sampling location was dry. Field logs attached in Appendix D.

FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

• 2023 Annual Report submitted.

ANNUAL REPORT FOR THE MUNICIPALITY OF RANKIN INLET

Appendix A: Hazardous Materials Spills Database for Rankin Inlet in 2024

Appendix B: CIRNAC Inspection Report – September 17, 2024

Appendix C: RAN-2 Sampling Results Certificate of Analysis – July 4, 2024 Certificate of Analysis –September 25, 2024

Appendix D: RAN-2 Field Logs

Appendix A: Hazardous Materials Spills Database for Rankin Inlet in 2024



Spill	Occurance Date	Spill Region	Location	Location Description	Product Spilled	Quantity	Measurement	Spill Cause	Lead Agency
spill- 2024280	July 17, 2024		Rankin Inlet, Community, Nunavut	Rankin Inlet	Petroleum - fuel oil (jet A, diesel, turbo A, heat)	7000.00	Liters	Unknown Cause	GN - Government of Nunavut
spill- 2024250	June 29, 2024		Rankin Inlet	Coats Island Hudson Strait	Other	Unknown Quantity		Other	CCG/TCMSS - Canadian Coast Guard/Transport Canada, Marine Safety and Security
spill- 2024212	June 6, 2024	Kivalliq	Rankin Inlet, Community, Nunavut	Ranking Inlet Housing Unit 411	Petroleum - fuel oil (jet A, diesel, turbo A, heat)	123.00	Liters		GN - Government of Nunavut
spill- 2024202	May 30, 2024		Rankin Inlet	Rankin Inlet	Petroleum - fuel oil (jet A, diesel, turbo A, heat)	2000.00	Liters	Other	GN - Government of Nunavut
spill- 2024200	May 30, 2024	Kivalliq	Rankin Inlet	33 Plex Rankin Inlet	Petroleum - fuel oil (jet A, diesel, turbo A, heat)	50.00	Liters	Overflow Event	GN - Government of Nunavut
spill- 2024126	April 25, 2024	Kivalliq	Rankin Inlet, Community, Nunavut	Rankin Inlet Lake B5 0m	Petroleum - lubricating oil (lube, hydraulic)	10.00	Liters	Other	CIRNAC - Crown- Indigenous Relations and Northern Affairs Canada

Outside of Municipal boundary.

Outside of Municipal boundary.

ANNUAL REPORT FOR THE MUNICIPALITY OF RANKIN INLET

Appendix B: CIRNAC Inspection Report – September 17, 2024



Water Licence Inspection Report

⊠Original	
□Follow-Up	Report

Organization	Representative					
Hamlet of Rankin Inlet	Darren Flynn					
Authorization No. / Expiry	Representative's Title					
3BM-RAN2025/ December 20 th 2025	Senior Administrative Officer					
Inspection Date	Inspector					
September 17 th 2024	RMO Atuat Shouldice					
Other Authorization/s						
Activities Inspected						
☐ Camp, Commercial ☐ Drilling ☐ Mining ☐ Construction ☐ Reclamation ☐ Fuel Storage ☐ Roads/Hauling ☐ Winter Hauling						
☐ Camp, Private 🛭 Other Municipal						

Section 1 Comments

On September 17th 2024 an Inspection was conducted of Water Licence 3BM-RAN2025 (Licence) Hamlet of Rankin Inlet. Resource Management Officer Atuat Shouldice (Inspector) for Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) was accompanied by Darren Flynn Senior Administrative Office, Hamlet of Rankin Inlet and Troy Aksalnik Manager of Municipal Works, Hamlet of Rankin Inlet.

-Landfill and domestic waste

Open burning of municipal waste shall be conducted only in accordance with the Government of Nunavut's Environmental Guideline for the Burning and Incineration of Solid Waste (2012), at the designated location at the Solid Waste Disposal Facility. During inspection no opening burning occurred, all location with in facility were marked with signage and an employee of the Hamlet was directing construction and local contractors to locations for specific waste type. Photo #1

-Hazardous waste storage

The Hamlet has been colleting discarded batteries, empty propane, waste oil and storing items in shipping containers and in designated areas. The hamlet is following Licence conditions item Part D Item 4. The Hamlet of Rankin Inlet works closely with Agnico Eagle (AEM is a nearby mining corporation) to ship out Hazardous waste and has done so in the past. Do to unforeseen shipping issues this year waste wasn't able to be back hauled, Hazardous waste sits ready to be shipped, waste is scheduled to be ship to a licenced disposal facility during the 2025 shipping season. Photo #2

-Administrative

As of October 21st, 2024, The 2023 annual report was not submitted to the Nunavut Water Board.

Section 2 Non-Compliance with Licence

Non-Compliance with the Licence:

• Part B Item 1: Failure to submit annual report

Section 3 Action Required

The Licensee shall:

 Submit information and work with CGS to allow for submission of the annual report by November 26th 2024.







Section 4 Other

During the inspection it was noted the landfill has reached its capacity, Countless efforts made by
the Municipal Foreman and The Hamlet to stretch the life of the landfill have been made. Regularly
domestic waste is capped with crushed stone to act as a fire barrier. The landfill is locked during the
evening and monitored with security camera for the publics safety. Inspector was informed that the
capped domestic waste location is often monitored for risk of collapse due to burning waste in the
landfill and often steam is witnessed during the winter months coming from different locations
within the landfill.

Licensee or Representative	Inspector's Name
Darren Flynn	Atuat Shouldice
Signature	Signature Sharling
Date	Date
	October 31 st 2024

Office Use Only: Follow-up report to be issued by Inspector

PHOTO LOG			
Date:	Authorization Number:	Camera/Model:	Inspector
Tuesday, September 17, 2024	3BM-RAN2025	Samsung s21	Atuat Shouldice
Photo No.		Lat/Long (DD.MM.SS.SS, NAD83)	
Photo 1		N62 48' 6.69" W92 4' 37.43	



Description:

Domestic waste drop off location within landfill, Front end loader used crushed rock to build up fire barrier.





 Photo No.
 Lat/Long (DD.MM.SS.SS, NAD83)

 Photo 2
 N62 48' 12.16 W92 4' 48.17



Description:

Discarded Batteries being prepared for back haul at designated hazardous waste location.



ANNUAL REPORT FOR THE MUNICIPALITY OF RANKIN INLET

Appendix C: RAN-2 Sampling Results

ALS Canada Ltd.



CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order : WP2416756 Page : 1 of 8

Client Laboratory : ALS Environmental - Winnipeg : Hamlet of Rankin Inlet

Contact : Tommy Sharp **Account Manager** : Craig Riddell

> : PO Box 310 Address : 1329 Niakwa Road East, Unit 12 Rankin Inlet NU Canada X0C 0G0

Winnipeg, Manitoba Canada R2J 3T4

Telephone : 867 645 6467 Telephone : +1 204 255 9720 Project **Date Samples Received** : 05-Jul-2024 12:20 **Date Analysis Commenced** : 05-Jul-2024 PO

: 27-Nov-2024 09:46 C-O-C number Issue Date Sampler

Site : ----

Quote number : 2024 Analytical Testing

No. of samples received : 1 No. of samples analysed : 1

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
- Guideline Comparison

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

Address

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
Jade Soliman		Microbiology, Winnipeg, Manitoba
Jeremy Gingras	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Leila Conyard	Lab Assistant	Metals, Winnipeg, Manitoba
Michelle Michalchuk	Analyst	Organics, Winnipeg, Manitoba
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
Oleksandr Busel		Inorganics, Winnipeg, Manitoba
Oleksandr Busel		Metals, Winnipeg, Manitoba
Rhovee Guevarra		Inorganics, Winnipeg, Manitoba
Ryan Velasco		Organics, Winnipeg, Manitoba

Page : 2 of 8 Work Order : WP2416756

Client : Hamlet of Rankin Inlet

Project : ---



No Breaches Found

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.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key: LOR: Limit of Reporting (detection limit).

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

>: greater than.

<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Page : 3 of 8 Work Order : WP2416756

Client : Hamlet of Rankin Inlet

Project : --



Qualifiers

Qualifier	Description
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).
SFP	Sample was filtered and preserved at the laboratory.

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 Work Order
 :
 WP2416756

Client : Hamlet of Rankin Inlet

Project : --



Client sample I				RAN-2	 	 	
Matrix: Effluent							
		Sampling	date/time	04-Jul-2024 10:55	 	 	
		\$	Sub-Matrix	Effluent	 	 	
Analyte	CAS Number	Method/Lab	Unit	WP2416756-001	 	 	
Physical Tests							
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290/WP	mg/L	143	 	 	
Alkalinity, carbonate (as CO3)	3812-32-6	E290/WP	mg/L	<1.0	 	 	
Alkalinity, hydroxide (as OH)	14280-30-9	E290/WP	mg/L	<1.0	 	 	
Conductivity		E100/WP	μS/cm	1030	 	 	
Hardness (as CaCO3), from total Ca/Mg		EC100A/WP	mg/L	463	 	 	
pH		E108/WP	pH units	8.13	 	 	
Solids, total suspended [TSS]		E160/WP	mg/L	<3.0	 	 	
Anions and Nutrients							
Ammonia, total (as N)	7664-41-7	E298/WP	mg/L	0.104	 	 	
Chloride	16887-00-6	E235.CI/WP	mg/L	32.9	 	 	
Nitrate (as N)	14797-55-8	E235.NO3/WP	mg/L	1.06	 	 	
Nitrate + Nitrite (as N)		EC235.N+N/WP	mg/L	1.06	 	 	
Nitrite (as N)	14797-65-0	E235.NO2/WP	mg/L	<0.020 DLM	 	 	
Phosphorus, total	7723-14-0	E372/WP	mg/L	0.026	 	 	
Sulfate (as SO4)	14808-79-8	E235.SO4/WP	mg/L	389	 	 	
Organic / Inorganic Carbon							
Carbon, total organic [TOC]		E355-L/WP	mg/L	13.2	 	 	
Microbiological Tests							
Coliforms, thermotolerant [fecal]		E010.FC/WP	MPN/10	579 мвнт	 	 	
Coliforms, total		E010.QT97/WP	0mL MPN/100 mL	921 MBHT	 	 	
Coliforms, Escherichia coli [E. coli]		E010.QT97/WP	MPN/10 0mL	613 мвнт	 	 	
Total Metals							
Aluminum, total	7429-90-5	E420/WP	mg/L	0.0094	 	 	
Antimony, total	7440-36-0	E420/WP	mg/L	0.00066	 	 	
Arsenic, total	7440-38-2	E420/WP	mg/L	0.00116	 	 	
Barium, total	7440-39-3	E420/WP	mg/L	0.0359	 	 	

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Client : Hamlet of Rankin Inlet

Project : --

ALS

		Client sample ID	RAN-2	 	 	
Matrix: Effluent						
	Sampling date/time			 	 	
		Sub-Matrix	Effluent	 	 	
Analyte	CAS Number	Method/Lab Unit	WP2416756-001	 	 	
Total Metals						
Beryllium, total	7440-41-7 E420	0/WP mg/L	<0.000020	 	 	
Bismuth, total	7440-69-9 E420	0/WP mg/L	Not Detected	 	 	
Boron, total	7440-42-8 E420	0/WP mg/L	0.369	 	 	
Cadmium, total	7440-43-9 E420	0/WP mg/L	0.0000254	 	 	
Calcium, total	7440-70-2 E420	0/WP mg/L	155	 	 	
Cesium, total	7440-46-2 E420	0/WP mg/L	0.000026	 	 	
Chromium, total	7440-47-3 E420	0/WP mg/L	<0.00050	 	 	
Cobalt, total	7440-48-4 E420	0/WP mg/L	0.00120	 	 	
Copper, total	7440-50-8 E420	0/WP mg/L	0.0180	 	 	
Iron, total	7439-89-6 E420	0/WP mg/L	0.652	 	 	
Lead, total	7439-92-1 E420	0/WP mg/L	0.000142	 	 	
Lithium, total	7439-93-2 E420	0/WP mg/L	0.0074	 	 	
Magnesium, total	7439-95-4 E420	0/WP mg/L	18.4	 	 	
Manganese, total	7439-96-5 E420	0/WP mg/L	0.0722	 	 	
Mercury, total	7439-97-6 E508	8/WP mg/L	<0.0000050	 	 	
Molybdenum, total	7439-98-7 E420	0/WP mg/L	0.00209	 	 	
Nickel, total	7440-02-0 E420	0/WP mg/L	0.0132	 	 	
Phosphorus, total	7723-14-0 E420	0/WP mg/L	<0.050	 	 	
Potassium, total	7440-09-7 E420	0/WP mg/L	11.1	 	 	
Rubidium, total	7440-17-7 E420	0/WP mg/L	0.00760	 	 	
Selenium, total	7782-49-2 E420	0/WP mg/L	0.000316	 	 	
Silicon, total	7440-21-3 E420	0/WP mg/L	0.76	 	 	
Silver, total	7440-22-4 E420	0/WP mg/L	<0.000010	 	 	
Sodium, total	7440-23-5 E420	0/WP mg/L	31.6	 	 	
Strontium, total	7440-24-6 E420	0/WP mg/L	0.705	 	 	
Sulfur, total	7704-34-9 E420	0/WP mg/L	140	 	 	
Tellurium, total	13494-80-9 E420	0/WP mg/L	<0.00020	 	 	
Thallium, total	7440-28-0 E420	0/WP mg/L	0.000015	 	 	
Thorium, total	7440-29-1 E420	0/WP mg/L	Not Detected	 	 	

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Client : Hamlet of Rankin Inlet

Project : --

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		Client	sample ID	RAN-2	 	 	
Matrix: Effluent			•			 	
		Sampling	date/time	04-Jul-2024 10:55	 	 	
			Sub-Matrix	Effluent	 	 	
Analyte	CAS Number	- Method/Lab	Unit	WP2416756-001	 	 	
Total Metals							
Tin, total	7440-31-5	E420/WP	mg/L	0.00031	 	 	
Titanium, total	7440-32-6	E420/WP	mg/L	<0.00030	 	 	
Tungsten, total	7440-33-7	E420/WP	mg/L	Not Detected	 	 	
Uranium, total	7440-61-1	E420/WP	mg/L	0.00286	 	 	
Vanadium, total	7440-62-2	E420/WP	mg/L	<0.00050	 	 	
Zinc, total	7440-66-6	E420/WP	mg/L	0.0115	 	 	
Zirconium, total	7440-67-7	E420/WP	mg/L	<0.00020	 	 	
Dissolved Metals							
Mercury, dissolved	7439-97-6	E509/WP	mg/L	<0.0000050 SFP	 	 	
Dissolved mercury filtration location		EP509/WP	-	Laboratory	 	 	
Aggregate Organics							
Biochemical oxygen demand [BOD]		E550/WP	mg/L	<2.0	 	 	
Carbonaceous biochemical oxygen dem	and	E555/WP	mg/L	<2.0	 	 	
[CBOD]				-5.0			
Oil & grease (gravimetric)		E567/WP	mg/L	<5.0 0.0013	 	 	
Phenois, total (4AAP)		E562/WT	mg/L	0.0013	 	 	
Volatile Organic Compounds							
Benzene		E611A/WP	mg/L	<0.00050	 	 	
Ethylbenzene		E611A/WP	mg/L	<0.00050	 	 	
Toluene		E611A/WP	mg/L	<0.00050	 	 	
Xylene, m+p-	179601-23-1		mg/L	<0.00040	 	 	
Xylene, o-		E611A/WP	mg/L	<0.00030	 	 	
Xylenes, total	1330-20-7		mg/L	<0.00050	 	 	
BTEX, total		E611A/WP	mg/L	<0.0010	 	 	
Hydrocarbons							
F1 (C6-C10)		E581.F1/WP	mg/L	<0.10	 	 	
F1-BTEX		EC580/WP	mg/L	<0.100	 	 	
F2 (C10-C16)		E601/WP	mg/L	<0.10	 	 	
F3 (C16-C34)		E601/WP	mg/L	<0.25	 	 	

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Client : Hamlet of Rankin Inlet

Project : --

ALS

		Client	sample ID	DANO			
Matrix: Effluent		Chefit s	ωπρισ ΙΟ	RAN-2	 	 	
		Sampling	date/time	04-Jul-2024 10:55	 	 	
			tub-Matrix	Effluent	 	 	
Analyte	CAS Number		Unit	WP2416756-001	 	 	
. 3							
Hydrocarbons							
F4 (C34-C50)		E601/WP	mg/L	<0.25	 	 	
TEH (C10-C50)	n/a	E601/WP	mg/L	<0.40	 	 	
TEH (C16-C50)		E601/WP	mg/L	<0.40	 	 	
Hydrocarbons Surrogates							
Bromobenzotrifluoride, 2- (F2-F4 surrogate	e) 392-83-6	E601/WP	%	94.5	 	 	
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	%	102	 	 	
Volatile Organic Compounds Surrogates							
Bromofluorobenzene, 4-	460-00-4	E611A/WP	%	91.2	 	 	
Difluorobenzene, 1,4-	540-36-3	E611A/WP	%	105	 	 	
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	83-32-9	E641A/WT	μg/L	<0.010	 	 	
Acenaphthylene	208-96-8		μg/L	<0.010	 	 	
Acridine	260-94-6	E641A/WT	μg/L	<0.010	 	 	
Anthracene	120-12-7	E641A/WT	μg/L	<0.010	 	 	
Benz(a)anthracene	56-55-3	E641A/WT	μg/L	<0.010	 	 	
Benzo(a)pyrene	50-32-8	E641A/WT	μg/L	<0.0050	 	 	
Benzo(b+j)fluoranthene	n/a	E641A/WT	μg/L	<0.010	 	 	
Benzo(b+j+k)fluoranthene	n/a	E641A/WT	μg/L	<0.015	 	 	
Benzo(g,h,i)perylene	191-24-2	E641A/WT	μg/L	<0.010	 	 	
Benzo(k)fluoranthene	207-08-9	E641A/WT	μg/L	<0.010	 	 	
Chrysene	218-01-9	E641A/WT	μg/L	<0.010	 	 	
Dibenz(a,h)anthracene	53-70-3	E641A/WT	μg/L	<0.0050	 	 	
Fluoranthene	206-44-0	E641A/WT	μg/L	<0.010	 	 	
Fluorene	86-73-7	E641A/WT	μg/L	<0.010	 	 	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	μg/L	<0.010	 	 	
Methylnaphthalene, 1-	90-12-0	E641A/WT	μg/L	<0.010	 	 	
Methylnaphthalene, 1+2-		E641A/WT	μg/L	<0.015	 	 	
Methylnaphthalene, 2-	91-57-6	E641A/WT	μg/L	<0.010	 	 	
Naphthalene	91-20-3	E641A/WT	μg/L	<0.050	 	 	

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Client : Hamlet of Rankin Inlet

Project : --



Analytical Results Evaluation

		Client	sample ID	RAN-2		 	 	
Matrix: Effluent	Matrix: Effluent							
		Sampling	date/time	04-Jul-2024 10:55		 	 	
		S	ub-Matrix	Effluent		 	 	
Analyte	CAS Number	Method/Lab	Unit	WP2416756-001		 	 	
Polycyclic Aromatic Hydrocarbons								
Phenanthrene	85-01-8	E641A/WT	μg/L	<0.020		 	 	
Pyrene	129-00-0	E641A/WT	μg/L	<0.010		 	 	
Quinoline	91-22-5	E641A/WT	μg/L	<0.050		 	 	
B(a)P total potency equivalents [B(a)P TPE]	E641A/WT	μg/L	<0.010		 	 	
PAHs, high molecular weight (BC AWQ)	n/a	E641A/WT	μg/L	<0.030		 	 	
PAHs, low molecular weight (BC AWQ)	n/a	E641A/WT	μg/L	<0.060		 	 	
PAHs, total (CCME sewer 18)	n/a	E641A/WT	μg/L	<0.070		 	 	
PAHs, total (EPA 16)	n/a	E641A/WT	μg/L	<0.065		 	 	
Polycyclic Aromatic Hydrocarbons Surrog	ates							
Chrysene-d12	1719-03-5	E641A/WT	%	119		 	 	
Naphthalene-d8	1146-65-2	E641A/WT	%	86.9		 	 	
Phenanthrene-d10	1517-22-2	E641A/WT	%	100		 	 	

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.

Key:

ALS Canada Ltd.



CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order : **WP2422861** Page : 1 of 8

Client : Hamlet of Rankin Inlet Laboratory : ALS Environmental - Winnipeg

Contact : Tommy Sharp : Craig Riddell

PO Box 310 Address : 1329 Niakwa Road East, Unit 12

Winnipeg, Manitoba Canada R2J 3T4

 Telephone
 : 867 645 6467
 Telephone
 : +1 204 255 9720

 Project
 : --- Date Samples Received
 : 26-Sep-2024 11:11

PO : --- Date Analysis Commenced : 26-Sep-2024
C-O-C number : --- Issue Date : 27-Nov-2024 09:47

Sampler : ----Site : ----

Quote number : 2024 Analytical Testing

No. of samples received : 1
No. of samples analysed : 1

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:

Rankin Inlet NU Canada X0C 0G0

- General Comments
- Analytical Results
- Guideline Comparison

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

Address

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
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Danielle Gravel	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Lee McTavish		Metals, Winnipeg, Manitoba
Leila Conyard	Lab Assistant	Metals, Winnipeg, Manitoba
Michelle Michalchuk	Analyst	Organics, Winnipeg, Manitoba
Oleksandr Busel		Inorganics, Winnipeg, Manitoba
Oleksandr Busel		Metals, Winnipeg, Manitoba
Oren Wurenqiqige	Analyst	Microbiology, Winnipeg, Manitoba
Ryan Velasco		Organics, Winnipeg, Manitoba
Stephanie Okoye		Organics, Winnipeg, Manitoba

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No Breaches Found

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.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key: LOR: Limit of Reporting (detection limit).

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

>: greater than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

<: less than.

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Qualifiers

Qualifier	Description
SFP	Sample was filtered and preserved at the laboratory.

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Client : Hamlet of Rankin Inlet

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Matrix: Effluent	Client sample ID			RAN-2	 	 	
Watts. Lindent	Sampling date/time				 	 	
			Sub-Matrix	Effluent	 	 	
Analyte	CAS Number	Method/Lab	Unit	WP2422861-001	 	 	
Physical Tests							
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290/WP	mg/L	166	 	 	
Alkalinity, carbonate (as CO3)	3812-32-6	E290/WP	mg/L	<1.0	 	 	
Alkalinity, hydroxide (as OH)	14280-30-9	E290/WP	mg/L	<1.0	 	 	
Conductivity		E100/WP	μS/cm	760	 	 	
Hardness (as CaCO3), from total Ca/Mg		EC100A/WP	mg/L	275	 	 	
pH		E108/WP	pH units	8.08	 	 	
Solids, total suspended [TSS]		E160/WP	mg/L	<3.0	 	 	
Anions and Nutrients							
Ammonia, total (as N)	7664-41-7	E298/WP	mg/L	0.0435	 	 	
Chloride	16887-00-6	E235.CI/WP	mg/L	47.7	 	 	
Nitrate (as N)	14797-55-8	E235.NO3/WP	mg/L	6.14	 	 	
Nitrate + Nitrite (as N)		EC235.N+N/WP	mg/L	6.16	 	 	
Nitrite (as N)	14797-65-0	E235.NO2/WP	mg/L	0.023	 	 	
Phosphorus, total	7723-14-0	E372/WP	mg/L	<0.020	 	 	
Sulfate (as SO4)	14808-79-8	E235.SO4/WP	mg/L	160	 	 	
Organic / Inorganic Carbon							
Carbon, total organic [TOC]		E355-L/WP	mg/L	14.3	 	 	
Microbiological Tests							
Coliforms, thermotolerant [fecal]		E010.FC/WP	MPN/10	58	 	 	
Coliforms, total		E010.QT97/WP	0mL MPN/100 mL	>2420	 	 	
Coliforms, Escherichia coli [E. coli]		E010.QT97/WP	MPN/10	39	 	 	
			0mL				
Total Metals							
Aluminum, total	7429-90-5	E420/WP	mg/L	0.0242	 	 	
Antimony, total	7440-36-0	E420/WP	mg/L	0.00084	 	 	
Arsenic, total	7440-38-2	E420/WP	mg/L	0.00104	 	 	

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ALS

		Client sample ID	RAN-2	 	 	
Matrix: Effluent						
		Sampling date/time	25-Sep-2024 14:05	 	 	
		Sub-Matrix	Effluent	 	 	
Analyte	CAS Number Me	thod/Lab Unit	WP2422861-001	 	 	
Total Metals						
Barium, total	7440-39-3 E420/WF	mg/L	0.0292	 	 	
Beryllium, total	7440-41-7 E420/WF	p mg/L	<0.000020	 	 	
Bismuth, total	7440-69-9 E420/WF	⊃ mg/L	<0.000050	 	 	
Boron, total	7440-42-8 E420/WF	⊃ mg/L	0.306	 	 	
Cadmium, total	7440-43-9 E420/WF		0.0000463	 	 	
Calcium, total	7440-70-2 E420/WF	⊃ mg/L	89.2	 	 	
Cesium, total	7440-46-2 E420/WF	⊃ mg/L	0.000023	 	 	
Chromium, total	7440-47-3 E420/WF	e mg/L	<0.00050	 	 	
Cobalt, total	7440-48-4 E420/WF	⊃ mg/L	0.00068	 	 	
Copper, total	7440-50-8 E420/WF	⊃ mg/L	0.0331	 	 	
Iron, total	7439-89-6 E420/WF	⊃ mg/L	0.060	 	 	
Lead, total	7439-92-1 E420/WF	⊃ mg/L	0.000070	 	 	
Lithium, total	7439-93-2 E420/WF	mg/L	0.0073	 	 	
Magnesium, total	7439-95-4 E420/WF	⊃ mg/L	12.7	 	 	
Manganese, total	7439-96-5 E420/WF	⊃ mg/L	0.0196	 	 	
Mercury, total	7439-97-6 E508/WF	⊃ mg/L	<0.0000050	 	 	
Molybdenum, total	7439-98-7 E420/WF	⊃ mg/L	0.00183	 	 	
Nickel, total	7440-02-0 E420/WF	⊃ mg/L	0.0106	 	 	
Phosphorus, total	7723-14-0 E420/WF	mg/L	<0.050	 	 	
Potassium, total	7440-09-7 E420/WF	⊃ mg/L	8.84	 	 	
Rubidium, total	7440-17-7 E420/WF	p mg/L	0.00661	 	 	
Selenium, total	7782-49-2 E420/WF	⊃ mg/L	0.000381	 	 	
Silicon, total	7440-21-3 E420/WF	p mg/L	0.74	 	 	
Silver, total	7440-22-4 E420/WF	⊃ mg/L	0.000012	 	 	
Sodium, total	7440-23-5 E420/WF	p mg/L	43.4	 	 	
Strontium, total	7440-24-6 E420/WF	⊃ mg/L	0.371	 	 	
Sulfur, total	7704-34-9 E420/WF	⊃ mg/L	56.6	 	 	
Tellurium, total	13494-80-9 E420/WF	⊃ mg/L	<0.00020	 	 	
Thallium, total	7440-28-0 E420/WF	p mg/L	0.000016	 	 	

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Matrix: Effluent		Ollotti C	sample ID	RAN-2	 	 	
		Sampling	date/time	25-Sep-2024 14:05	 	 	
		S	ub-Matrix	Effluent	 	 	
Analyte C	CAS Number	Method/Lab	Unit	WP2422861-001	 	 	
Total Metals							
Thorium, total	7440-29-1	E420/WP	mg/L	<0.00010	 	 	
Tin, total	7440-31-5	E420/WP	mg/L	<0.00010	 	 	
Titanium, total	7440-32-6	E420/WP	mg/L	0.00082	 	 	
Tungsten, total	7440-33-7	E420/WP	mg/L	Not Detected	 	 	
Uranium, total	7440-61-1	E420/WP	mg/L	0.00153	 	 	
Vanadium, total	7440-62-2	E420/WP	mg/L	<0.00050	 	 	
Zinc, total	7440-66-6	E420/WP	mg/L	0.0524	 	 	
Zirconium, total	7440-67-7	E420/WP	mg/L	<0.00020	 	 	
Dissolved Metals							
Mercury, dissolved	7439-97-6	E509/WP	mg/L	0.0000052 SFP	 	 	
Dissolved mercury filtration location		EP509/WP	-	Laboratory	 	 	
Aggregate Organics							
Biochemical oxygen demand [BOD]		E550/WP	mg/L	<2.0	 	 	
Carbonaceous biochemical oxygen demand	d	E555/WP	mg/L	<2.0	 	 	
[CBOD]				5.0			
Oil & grease (gravimetric)		E567/WP	mg/L	<5.0	 	 	
Phenois, total (4AAP)		E562/EO	mg/L	0.0035	 	 	
Volatile Organic Compounds							
Benzene	-	E611A/WP	mg/L	<0.00050	 	 	
Ethylbenzene	100-41-4	E611A/WP	mg/L	<0.00050	 	 	
Toluene	108-88-3	E611A/WP	mg/L	<0.00050	 	 	
Xylene, m+p-	179601-23-1	E611A/WP	mg/L	<0.00040	 	 	
Xylene, o-		E611A/WP	mg/L	<0.00030	 	 	
Xylenes, total	1330-20-7	E611A/WP	mg/L	<0.00050	 	 	
BTEX, total		E611A/WP	mg/L	<0.0010	 	 	
Hydrocarbons							
F1 (C6-C10)		E581.F1/WP	mg/L	<0.10	 	 	
F1-BTEX		EC580/WP	mg/L	<0.100	 	 	

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		Client	sample ID	RAN-2	 	 	
Matrix: Effluent							
		Sampling	date/time	25-Sep-2024 14:05	 	 	
		5	Sub-Matrix	Effluent	 	 	
Analyte	CAS Number	Method/Lab	Unit	WP2422861-001	 	 	
Hydrocarbons							
F2 (C10-C16)		E601/WP	mg/L	<0.10	 	 	
F3 (C16-C34)		E601/WP	mg/L	<0.25	 	 	
F4 (C34-C50)		E601/WP	mg/L	<0.25	 	 	
TEH (C10-C50)	n/a	E601/WP	mg/L	<0.40	 	 	
TEH (C16-C50)		E601/WP	mg/L	<0.40	 	 	
Hydrocarbons Surrogates							
Bromobenzotrifluoride, 2- (F2-F4 surrogate	392-83-6	E601/WP	%	108	 	 	
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	%	82.4	 	 	
Volatile Organic Compounds Surrogates							
Bromofluorobenzene, 4-	460-00-4	E611A/WP	%	84.1	 	 	
Difluorobenzene, 1,4-	540-36-3	E611A/WP	%	105	 	 	
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	83-32-9	E641A/WT	μg/L	<0.010	 	 	
Acenaphthylene	208-96-8	E641A/WT	μg/L	<0.010	 	 	
Acridine	260-94-6	E641A/WT	μg/L	<0.010	 	 	
Anthracene	120-12-7	E641A/WT	μg/L	<0.010	 	 	
Benz(a)anthracene	56-55-3	E641A/WT	μg/L	<0.010	 	 	
Benzo(a)pyrene	50-32-8	E641A/WT	μg/L	<0.0050	 	 	
Benzo(b+j)fluoranthene	n/a	E641A/WT	μg/L	<0.010	 	 	
Benzo(b+j+k)fluoranthene	n/a	E641A/WT	μg/L	<0.015	 	 	
Benzo(g,h,i)perylene	191-24-2	E641A/WT	μg/L	<0.010	 	 	
Benzo(k)fluoranthene	207-08-9	E641A/WT	μg/L	<0.010	 	 	
Chrysene	218-01-9	E641A/WT	μg/L	<0.010	 	 	
Dibenz(a,h)anthracene	53-70-3	E641A/WT	μg/L	<0.0050	 	 	
Fluoranthene	206-44-0	E641A/WT	μg/L	<0.010	 	 	
Fluorene	86-73-7	E641A/WT	μg/L	<0.010	 	 	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	μg/L	<0.010	 	 	
Methylnaphthalene, 1-	90-12-0	E641A/WT	μg/L	<0.010	 	 	

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Client : Hamlet of Rankin Inlet

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Analytical Results Evaluation

		Client	sample ID	RAN-2		 	 	
Matrix: Effluent								
	Sampling date/time					 	 	
	Sub-Matrix					 	 	
Analyte	CAS Number	Method/Lab	Unit	WP2422861-001		 	 	
Polycyclic Aromatic Hydrocarbons								
Methylnaphthalene, 1+2-		E641A/WT	μg/L	<0.015		 	 	
Methylnaphthalene, 2-	91-57-6	E641A/WT	μg/L	<0.010		 	 	
Naphthalene	91-20-3	E641A/WT	μg/L	<0.050		 	 	
Phenanthrene	85-01-8	E641A/WT	μg/L	<0.020		 	 	
Pyrene	129-00-0	E641A/WT	μg/L	<0.010		 	 	
Quinoline	91-22-5	E641A/WT	μg/L	<0.050		 	 	
B(a)P total potency equivalents [B(a)P TP	E]	E641A/WT	μg/L	<0.010		 	 	
PAHs, high molecular weight (BC AWQ)	n/a	E641A/WT	μg/L	<0.030		 	 	
PAHs, low molecular weight (BC AWQ)	n/a	E641A/WT	μg/L	<0.060		 	 	
PAHs, total (CCME sewer 18)	n/a	E641A/WT	μg/L	<0.070		 	 	
PAHs, total (EPA 16)	n/a	E641A/WT	μg/L	<0.065		 	 	
Polycyclic Aromatic Hydrocarbons Surro	gates							
Chrysene-d12	1719-03-5	E641A/WT	%	116		 	 	
Naphthalene-d8	1146-65-2	E641A/WT	%	99.8		 	 	
Phenanthrene-d10	1517-22-2	E641A/WT	%	116		 	 	

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.

Key:

ANNUAL REPORT FOR THE MUNICIPALITY OF RANKIN INLET

Appendix D: RAN-2 Field Logs

Field Log

Name of Sampler(s): MEGAN MUCKPAH	-GAVIN, TROY AKSALNIK
Date of Sampling: Jar 4, 2024	
Time of Sampling: 10:55 AM	
Monitoring Station Number: RAN - 1	2
GPS Coordinates: N 62 ° 48 ′ 1	" W 92 ° 4 '24 "
Weather Conditions: Sanny, LIG	HT WIND
Samples: 500 mL BOD 500 mL Routine 500 mL CBOD 40 mL Glass Mercury Vial + Pres 100 mL Amber Nutrients + Pres 100 mL Amber Phenols + Pres 250 mL Sterile Bacteria Bottle 2 x 250 mL Amber Oil & Grease + Pres	60 mL Metals + Pres x 40 mL BTEX, F1 Vials + Pres 2 x 100 mL Amber F2-F4 Vials + Pres 2 x 250 mL Amber PAH + Pres Other:
Other Notes: (any unusual conditions, any disample was not taken, etc.)	deviation from standard procedures, reason

Field Log

Name of Sampler(s): TE 3 RK	
Date of Sampling: August 12, 2024	1
Time of Sampling:	
Monitoring Station Number: RAN - 2	<u>)</u>
GPS Coordinates: N 62° 48′0.60	<u>" W 92 ° 4 '25.19"</u>
Weather Conditions: Sunny	
Samples: 500 mL BOD	60 mL Metals + Pres
500 mL Routine 500 mL CBOD 40 mL Glass Mercury Vial + Pres	3 x 40 mL BTEX, F1 Vials + Pres 2 x 100 mL Amber F2-F4 Vials + Pres 2 x 250 mL Amber PAH + Pres
100 mL Amber Nutrients + Pres 100 mL Amber Phenols + Pres	Other:
250 mL Sterile Bacteria Bottle 2 x 250 mL Amber Oil & Grease + Pres	
Other Notes: (any unusual conditions, any d	
Sampling spot dry sample no	Taken

Field Log

Name of Sampler(s): TE, MMG, RK
Date of Sampling: September 25, 2024
Time of Sampling: 2:05
Monitoring Station Number: RAN - 2
GPS Coordinates: N 62 ° 48 ' 0.60 " W 92 ° 4 ' 25,19 "
Weather Conditions: Cloudy, misty
Samples: 500 mL BOD 500 mL Routine 500 mL CBOD 40 mL Glass Mercury Vial + Pres 100 mL Amber Nutrients + Pres 100 mL Amber Phenols + Pres 2 x 250 mL Sterile Bacteria Bottle 2 x 250 mL Amber Oil & Grease + Pres
Other Notes: (any unusual conditions, any deviation from standard procedures, reason sample was not taken, etc.)