Nunavik Nickel Project by Canadian Royalties Inc.
Application to amend the certificate of authorization - Phase 2a

Responses to KEQC questions and comments

File 3215-14-007

October 2024

Signatures

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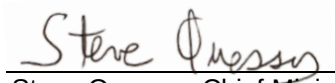

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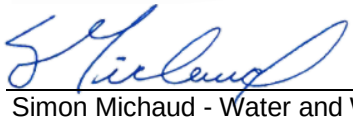

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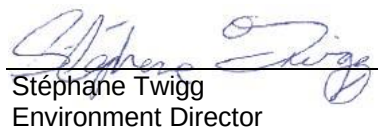

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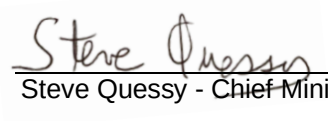

Steve Quessy - Chief Mining Engineer

Table of contents

List of tables

List of appendices

Disclaimer: This document in English is translated from the original French version. In the event of discrepancies between the French and English versions, the French version takes precedence over the English version.

ABBREVIATIONS AND ACRONYMS

KRG	Kativik Regional Administration
LCP	Lower Collection Pond
MCP	Main Collection Pond
CA	Certificate of authorization
CRI	Canadian Royalties inc.
KEQC	Kativik Environmental Quality Commission
DÉEPIM	*Direction de l'évaluation environnementale des projets industriels et miniers*
DRAEATNQ	*Direction régionale de l'analyse et de l'expertise Abitibi-Témiscamingue et Nord-du-Québec*
ESIA	Environmental and social impact assessment
GHG	Greenhouse gases
IBA	Impact and Benefits Agreement; refers to the Nunavik Nickel Agreement
LEMN	Northern landfill
LQE	Environmental Quality Act
MELCCFP	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs
WHE	Wetlands and hydric environments
EDO	Environmental discharge target
OP	Open pit mining
PEIIC	Program for Environmental Improvement in Inuit communities
PAG	Potentially Acid-Generating
NNiP	Nunavik Nickel Project
EMP	Environmental Monitoring Program
UG	Underground mining
WTP	Mine water treatment plant
WWTP	Wastewater treatment unit

INTRODUCTION

In June 2022, Canadian Royalties Inc (CRI) submitted an application to amend the Certificate of Authorization (CA) for the Nunavik Nickel Mining Project (Y/Ref.: 3215-14-007) (NNiP) under Section 201 of Chapter II of the Environment Quality Act (EQA) for Phase 2a. This modification request was made in the form of an addendum to the Environmental and Social Impact Assessment (ESIA) submitted in 2007 to obtain the global CA.

The elements covered by this application include the operation of four underground mining projects and related projects supporting the NNiP life extension brought about by these deposits. These four mining projects, the first three of which are already authorized deposit extensions, are:

- Expo South (extension of the Expo West underground mine);
- Méquillon UG2 (extension of Méquillon UG1 underground mine);
- Ivakkak UG (Ivakkak open pit extension);
- Nanaujaq (new underground mine).

Related projects include:

- Modification of tailings management in the Expo pit;
- Expansion of the Expo site's ore and waste rock piles;
- Increased occupancy at Camp Expo, including an upgrade to domestic wastewater treatment;
- Increased capacity at the LEMN northern landfill site with the addition of a landfill cell.

The *Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parc*s (MELCCFP) and the Kativik Environmental Quality Commission (KEQC) sent CRI a first series of questions and comments on January 24, 2023; a response document was sent on May 23, 2023. The MELCCFP and the KEQC sent a second set of questions and comments on April 19, 2024, to obtain further information to complete the analysis of the elements. The purpose of this document is to respond to this second set of questions and comments.

The Nanaujaq (Nunaujaq)[1] underground mining project has been withdrawn from this CA amendment application. Mining of the deposit has been withdrawn from the mining schedule for reasons of economic viability of the project in its present form. Should CRI wish to reinstate mining of the deposit, a new application to amend the CA will be filed, with all the studies required in accordance with the latest MELCCFP guides. Waste rock crushing at the Méquillon site has also been withdrawn from this application. The MELCCFP informed CRI in August 2024 that the crystalline silica grades included in the modeling had to be specific to the mine site and could not be taken from the literature. The time required to analyze the crystalline silica levels at the Méquillon site and modify the atmospheric modelling means that the atmospheric modelling will be delivered in November or December 2024. Considering that it is hoped to begin mining the Expo South and Ivakkak UG sites by July 2025 at the latest, CRI does not wish to add these weeks to the deadline for filing the present document, which will enable the MELCCFP to continue its analysis of the CA amendment request.

[1] In view of the intended Inuktitut meaning of the Nunaujaq deposit site, it was realized that the spelling Nunaujaq was more appropriate. The name is therefore replaced by Nunaujaq for the rest of the responses.

Setting the context for NNiP life extension

CRI representatives met with representatives of the Direction de l'évaluation environnementale des projets industriels et miniers (DÉEPIM) on September 10, 2024, to discuss the context of NNiP's life extension. The history of CRI and the NNiP was presented, including the amounts invested, the economic spin-offs, the relevance of producing minerals from the NNiP, and CRI's commitments with regard to:

- Communities: Through the awarding of contracts to qualified Inuit businesses and the Inuit Community Environmental Improvement Program (PEIIC), in particular.
- Research: Through a partnership with Université Laval's Petland Ecology Research Group (PERG) within the PEIIC and participation in the work of Caribou Ungava.
- Progressive restoration: Restoration of sites whose use has been completed, such as the Berbégamo camp, the Méquillon camp and the Allammaq mine.

CRI's previous mine plan, which ended with the mining of the Expo West mine at the end of 2022, and the updated plan, which now includes the Phase 2a, 2b projects and the new Inukshuk underground deposit, were presented. This provided an opportunity to describe the timing context for the various CA applications currently underway and those to come.

On the one hand, it was explained that the initial application to amend the CA for the deposit of tailings in the pit, which was filed in February 2021 and authorized on January 6, 2022, and which proposed a partial infill, was developed based on the previous mine plan and associated tailings production, which at the time foresaw a probable end of operations before 2023. Exploration efforts have led to the discovery of new mineral resources since 2021. This has enabled the mining plan to be extended. Maximizing the use of the Expo pit for tailings storage is in line with the orientations of the *Ministère de Ressources naturelles et des Forêts* (MRNF) and is included in the related Phase 2a projects. The interesting potential of the new underground Inukshuk deposit was also discussed; Phase 2a was illustrated as the necessary and essential bridge to maintain operations until the start of mining of this deposit, notably by making ore accessible,

Tailings deposition planning for the coming years was clarified, and it was recalled that in the context of an operating mining project, adapting to operational contexts and needs, tailings storage capacity, for which tailings management infrastructures are present, is not comparable to that of a new mining project under study.

The Expo pit, where tailings are currently deposited, has storage capacity until 2030, and work is underway to plan the next tailings accumulation area. The importance of authorizing the mining and related projects included in Phase 2a for the company's long-term viability was emphasized.

Considering a well-defined tailings deposition plan, in the context of a mining project in operation since 2013, it has emerged that the possibility of issuing the Phase 2a authorization before that of a new tailings accumulation area can be granted, subject to certain conditions.

The updated mining schedule is presented in the following section to provide an overall picture of NNiP activities prior to answering the questions.

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UPDATED MINING SCHEDULE

The **Erreur ! Source du renvoi introuvable.** updates the mining schedule from that presented in June 2022 in the addendum to the Phase 2a ESIA to reflect:

- Later start-up date for Expo South, withdrawal from mining of the Nunaujaq deposit and earlier mining of the Méquillon UG2 sector
- Later start of mining of the Delta deposit
- Inclusion of a mill processing rate of 4,808 t/day starting in 2025 (1,754,920 tonnes/year), assuming all permits are obtained by that year
- Inclusion of the Inukshuk deposit, located halfway between the Expo complex and the Méquillon site (11 km from the Expo site).

Since Méquillon UG2 is the extension of an existing, authorized mine, Méquillon UG1, the start of mining in 2027 rather than 2033 does not change the activities, and consequently the impact assessment, presented to date to the MELCCFP in the documents submitted. This does not increase the quantity of ore that will be extracted from the Méquillon UG2 sector of the underground mine; it is a choice related to the optimization of the mining sequence for the entire Méquillon underground mine. The updated mining plan calls for a maximum average daily rate of 3,850 t/day for Méquillon UG1 and UG2, assuming annual production of 1,400 kt in 2027. Total production from Méquillon UG1 and UG2 is not increased; however, it has been condensed to end operations in 2031. Maximum annual production for all deposits remains unchanged, as does the total number of ore hauls on the Ivakkak - Expo road section.

The project to increase the processing rate from 4,500 t/day to 4,808 t/day[2] and the underground mining of the Inukshuk deposit have been submitted to the *Direction de l'évaluation environnementale des projets industriels et miniers en* 2024 (DÉEPIM). An application to amend the CA to include these two projects will be submitted in early 2025. These two projects will also be considered in the answers to the questions on water withdrawal from Bombardier Lake and tailings production, again with a view to presenting an overall picture of NNiP. These projects do not require an increase in the occupancy rate of the Expo camp beyond what is planned for phase 2a.

The maximum daily tonnage, with the addition of the Inukshuk deposit, is higher than what was presented in the addendum submitted for the Phase 2a projects. The maximum daily tonnage specific to Phase 2a has been added to the table, since the present application concerns these projects and not the Inukshuk project.

It is not unusual for the annual sum of ore tonnes extracted from deposits (tonnes mined) to differ from the annual sum of tonnes processed at the ore plant (tonnes milled). Ore extraction from deposits considers, among other things, optimized distribution of mining equipment, transport of ore to the Expo site and the ore grade of each deposit. Ore is fed to the plant at maximum authorized processing capacity, when ore is available.

[2] The Impact and Benefits Agreement signed between CRI and the Inuit communities (Nunavik Nickel Agreement) includes an annual rate of 1,755 kt/year, representing a daily rate of 4,808 t/day.

Table 1: Updated 2024 mining schedule

Deposit[1]	2024	20 25[4]	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	20 36[3]	Total
kilotons														
Expo West	474,2													474,2
Expo South		396,4												396,4
Ivakkak OP	569,1													569,1
Ivakkak UG			277,4	425,6	500,0									1 203,0
Méquillon OP	548,0													548,0
Méquillon UG1	360,9	1 186,0	1 463,9	1 080,0										4 090,9
Méquillon UG2				202,4	776,8	616,0	190,0	380,0						2 165,2
Mesamax OP				66,8	88,9									155,7
Mesamax UG[2]														**0**
Annual sub-total[4]	1 952,3	1 582,5	1 741,3	1 774,8	1 365,7	616,0	190,0	380,0						**9 602,6**
Subtotal maximum daily tonnage	5,349	4,336	4,771	4,862	3,731	1,688	0,521	1,041						
Delta OP							325,6							**325,6**
Delta UG							111,5	337,5	384,2	384,8	376,3	349,7	42,4	**1 986,4**
Inukshuk UG				118,6	891,7	1 134,6	1 129,2	1 018,0	1 061,2	1 031,7	183,5			**6 550,5**
Maximum annual total mined (kt)	1 952,3	1 582,5	1 741,3	1 893,4	2 257,4	1 750,7	1 756,3	1 735,4	1 445,4	1 398,5	559,8	349,7	42,4	**18 465**
Maximum daily tonnage (kt/day)	5,349	4,336	4,771	5,187	6,168	4,796	4,812	4,755	3,949	3,831	1,534	0,958	5,349	
Maximum annual total milled (kt)[5]	1 647,0	1 642,5	1 754,9	1 754,9	1 754,9	1 754,9	1 754,9	1 754,9	1 754,9	1 754,9	1 080,5	349,8	42,4	18 465
Legend														
	Authorized mining													
	Phase 2a mining													
	Mining operations subject to a CA amendment under analysis other than those in Phase 2a and 2b													
	Phase 2b mining													
	Mining project for which an application to amend the CA has not been filed													

[1] The Puimajuq and Allammaq mine sites are scheduled to close in 2023 and are therefore not included in the table.

[2] There are no ore tonnes planned for the Mesamax UG mine in this version of the operating schedule for reasons of economic viability.

[3] There is no ore production or processing planned beyond 2036.

[4] For phase 2a combined with authorized projects and the CA amendment request for the Mesamax project

[5] Total tonnages milled includes 336.4 kt of ore already mined at the start of 2024. 2024 is a leap year (366 days), resulting in milled tonnage of 1,6 47 t/year at a daily rate of 4,500 t/day.

ANSWERS TO QUESTIONS AND COMMENTS

I - Questions

1 Analysis of variants

QC 2-1 In addition to the answer provided to question QC-2, the proponent must indicate what consultation measures and information it intends to carry out with the community of Puvirnituq concerning the preservation of water quality in the watershed in which the mine effluents are located. The proponent must also specify the monitoring measures that will be applied.

Following a meeting held in January 2020 in Puvirnituq with representatives, in response to concerns raised about water quality in the watershed, three surface water sampling stations were added on the Puvirnituq River in the summer of 2020. These stations have been integrated into monitoring program 4 (Surface water - Streams receiving mine effluents) of the Environmental Monitoring Program (EMP), and all parameters provided for in this monitoring program are applied to these additional stations. These stations are located some 40 km downstream from the last station included in the EMP (EE5, located in Pingualuit Park). Also, given that the concerns raised also related to potential fecal coliform contamination of the sanitary effluent that could reach the drinking water intake of the village of Puvirnituq, 260 km downstream of the effluent discharge point, it was decided to add the fecal coliform parameter to all the surface water monitoring stations linked to the Expo effluent (ER1 to EE12), even if this adds a notable complexity to the logistics of this monitoring. Adding this parameter means coordinating the timing of sampling, which depends on the limited availability of helicopter transport to the stations, with the possibility of sending samples south on an airplane flight the day after sampling, to avoid exceeding retention times for this parameter. Monitoring 4 of the EMP is in Appendix B.

Since 2020, the results have been included in the annual monitoring report sent to the Administrator and the communities. Covid-19 restrictions prevented village visits in 2021 and 2022. During the 2023 visit to Puvirnituq, the representatives present seemed satisfied with the answers given to their concerns about surface water quality, backed up by the analysis results of recent years. Despite test results showing levels in surface water close to laboratory detection limits, the concern was raised again during the 2024 visit, prompting us to formulate additional questions to the Puvirnituq representatives, to better understand the concerns and address them in a way that would better connect with the audience. It emerged that the representatives wanted to see what the surface water looked like, and that a better understanding of the sanitary and mining water treatment systems in place at the mine site could help resolve the watershed's water quality concerns. The minutes of these discussions are included in the documents appended to the response to QC2-41; the additional information and consultation measures planned are also detailed in the response to QC 2-41. Concerning additional environmental monitoring measures, this does not seem necessary, considering that the results of EMP Monitoring 4 in recent years show that the water quality of the watershed into which mining effluents are discharged is preserved. We recognize, however, that additional communication efforts must be made to address concerns, and the planned efforts are described in the response to QC2-41. CRI also plans to resume water sampling at the drinking water intake of the village of Puvirnituq as part of monitoring # 5 of the EMP. An agreement in principle had been reached with the stakeholders of the Nunavik Nickel Agreement in 2017, and an agreement obtained by the DEEPIM of the MELCCFP in 2016 to dedicate the amount corresponding to the annual cost of monitoring to a non-profit organization chosen by the administration of the village of Puvirnituq. Since water sampling at the village’s drinking water intake was already carried out by the community due to regulatory monitoring of drinking water, this had led to the formulation of this proposal. A letter formalizing this proposal was sent to the Mayor of Puvirnituq and the delegated representative of the Puvirnituq Northern Village Council in 2017 and 2022. As no response was received, it is considered that there is no longer any interest in this proposal and CRI will re-launch a request for support for sampling at the Puvirnituq water intake by a community member as it was established prior to 2017. We hope that this will help address the concern regarding the water quality of the Puvirnituq River. We understand that there may still be concerns about the water quality of the Puvirnituq River. Although sampling of the Puvirnituq drinking water intake must also be carried out by the Northern Village, we hope that the reinstatement of this monitoring will address some of the concerns.

2 Wastewater and drinking water

QC 2-2 The CIMA report, provided in Appendix C of the answers to the questions, mentions an occupancy of 722 people on the site, whereas the occupancy rate that is the subject of the present request is 700 people. It should also be noted that, following a visit by the *Direction régionale du contrôle environnemental*, it appears that the current occupancy of the camp is over 722 people. The proponent must be sure to request and confirm the maximum capacity of the workcamp it intends to use.

The proponent must demonstrate the volume of sanitary water the treatment system is to receive, including from the Expo camp and any other facilities, if applicable. The proponent must specify the volume of water to be treated by source, e.g., Expo camp, Reception Bay camp, satellite buildings, supernatant from sludge treatment basin, etc. If the capacity is over 700 people, the proponent must present the adjustments it will make to the sanitary water treatment system to achieve sufficient capacity. The proponent must demonstrate that the system is capable of meeting the maximum required capacity and quality parameters. The proponent must specify how it plans to ensure that water quality at the outlet of the sanitary water treatment system meets applicable quality criteria and parameters. The proponent must also submit a complete flow diagram of the sanitary water treatment system, from source to effluent.

The proponent must also undertake to submit a request for environmental discharge objectives (EDOs) for the maximum capacity of the sanitary water treatment plant.

The CIMA report mentions that the design is for 722 people; this will ensure additional contingency in terms of processing capacity if the camp experiences an occupancy rate of 700 people.

The current occupancy of the camp is no more than 722 people. The occupancy rate is reported in the annual environmental monitoring report. Daily occupancy rates for the Expo and Deception Bay campsites, from January 1^{ier} 2023 to May 31 2024, are available at Appendix C. The occupancy rate at Expo was below 700 people at all times.

CRI confirms that the maximum occupancy rate requested for the Expo camp is 700 people.

CRI commissioned the firm CIMA to evaluate the existing installations and make recommendations on the changes needed to ensure that the sanitary water treatment plant would be able to meet the camps' new occupancy requirements. The recommendation made by CIMA and accepted by CRI was to install a complete new plant. CIMA's design report takes into account the inflow of water from the satellite camps. The daily wastewater flow per person is based on actual values at the Expo camp, using the total flow of water admitted to the bio-disc sanitary water treatment plant (influent flowmeter) and dividing by the actual occupancy rate. Water from all satellite facilities, including the Deception Bay camp, is transferred to the treatment facility before the influent flow meter and is accounted for by the influent flow meter. Consequently, wastewater production from satellite camps is already included in the per capita daily flow used in the design report. There is therefore no need to modify the design report to account for satellite installations. In addition, the design flow used adds a contingency to the values observed to date at Camp Expo (325 L/person/day versus 307 L/person/day).

In view of this, the CIMA design report submitted to the MELCCFP, signed by qualified engineers in the field, is proof that the system will be able to meet the maximum capacity required and comply with quality parameters. CIMA has produced a revised version of the report (April 2024), in order to add more technical information in preparation for the MELCCFP's application for authorization under Article 22. The water treatment chain remains unchanged from the information submitted to date to the MELCCFP; an activated carbon-based odour treatment has been added (section 4.16). The report also incorporates the Environmental Discharge Objectives (EDOs) issued by the MELCCFP in May 2023[3] , as requested by CRI. The maximum capacity of the treatment plant (231 m^3 /day) was included in the EDO request. The system is designed to comply with the EDOs (section 2 of the CIMA report). The latest version of CIMA's report is available at Appendix C.

In terms of how CRI plans to ensure that the water leaving the treatment system meets applicable quality criteria and parameters, CRI employs and will continue to employ permanent, qualified personnel for the operation of the sanitary water plant. It will implement processes for monitoring equipment and key operating parameters to ensure the performance of the equipment in place. Finally, weekly samples and analyses will be carried out for internal effluent control purposes, to validate that discharge objectives are being met. The monitoring program included in the Environmental Monitoring Program (EMP), i.e. monitoring #2, which includes monthly analyses in an accredited laboratory, will continue to be applied. These analyses are also mentioned in the CIMA report, section 4.13.1.

The detailed technical documentation to be included in the authorization application under section 22 to the *Direction régionale de l'analyse et de l'expertise Abitibi-Témiscamingue et Nord-du-Québec* (DRAEATNQ) may be forwarded to the *Direction de l'évaluation environnementale des projets industriels et miniers* upon request.

The general flow pattern remains unchanged. The pipes carrying the wastewater to the future treatment plant remain unchanged, the location of the new plant is adjacent to the existing one, the discharge of treated water remains in a collection ditch at the Expo site, which carries this water to the main collection basin at the Expo site. All the water in the collection basin (consisting of runoff from the Expo site) is treated by the mine water treatment plant and discharged to the previously authorized discharge point. The characteristics of the final discharge point (location, diffuser type, pipe diameter) remain unchanged. The flow diagram for the new plant, the discharge point to the ditch and the map illustrating water flow to the final discharge point are available in Appendix C.

QC 2-3 The promoter indicates that the wastewater treatment plant will be designed for 231 m3 per day and that the drinking water treatment plant is designed for 245 m3 per day. The proponent will therefore have to be consistent and ensure that the ministerial water withdrawal authorization it holds is issued for 245 m3 per day.

The ministerial authorization for water withdrawal (Y/Ref: 7610-10-01-70080-82) includes a maximum withdrawal of 2,000 m^3 /day from Lac du Bombardier, which is the source of fresh water for drinking water production. Thus, the ministerial authorization is issued for more than 245 m /day. [3]

[3] E-mail communication from Ms Émilie Guérin, Analyst at DRAEATNQ

3 Northern Landfill Site (LEMN)

QC 2-4 The proponent must justify the addition of a landfill cell, in particular by forecasting the volumes of residual materials generated by the end of mine operations. It must also specify the volume capacity of the new cell.

The first landfill cell has reached the life span specified in the documentation for the ministerial authorization issued for the LEMN (Y/Ref.: 7610-10-01-70080-25), i.e. a construction period of 2 years and an operating period of 12 years. Given that the initial CA was issued in May 2008, and that operations will be more sustained from 2011 onwards, an end-of-life of around 2024-2025 was expected.

Regarding the forecast volumes of residual materials generated, monitoring of volumes admitted to the LEMN (part of EMP monitoring #24) shows an average of 19.6 m^3 /worker/year over 2020-2023 (including residual materials generated at the Deception Bay camp and brought back to the Expo LEMN). Observation of LEMN operations shows that burning leads to a 90% reduction in volume, resulting in a landfill volume of 1.96 m^3 /worker/year. An average occupancy rate of 517 to 557 people (including Deception Bay) is expected to support NNiP operations. For 557 workers, the annual volume to be landfilled would therefore be 1,092 m^3 /year. For a maximum occupancy rate of 700 people, the annual volume would be 1,372 m^3 /year. It is anticipated, however, that the maximum occupancy rate will be reached on a one-off rather than a sustained basis.

To optimize space at LEMN, it was decided to expand the capacity of the existing cell rather than dig a second landfill cell. The added capacity will be 14,128 m^3 ; dimensions are detailed in the response to QC2-6.

The forecast waste production is estimated at 1,092 m^3 /year for the maximum average occupancy rate, so the extended cell would have a service life of almost 13 years. The current cell will reach the end of its life in late 2024 or early 2025. The extended cell will accommodate residual materials from 2025 to 2037. In relation to the mining schedule presented at the beginning of this document, these forecasts cover the expected mine life. Also, with a view to longer-term planning, CRI has commissioned AtkinsRealis to evaluate the dismantling waste that will be generated after mining, during the reclamation period, in order to plan its management. The volume of waste to be sent to LEMN will depend on the possibilities for recycling and reclamation in the south, as well as on what can be offered to and accepted by communities. This can only be determined a few years before the decommissioning of the Expo site, scheduled for around 2036; it would therefore be risky to attempt to include an estimate of these volumes in the forecasts of the present application to amend the CA.

QC 2-5 In its mitigation measures, the proponent indicates that it will implement a waste management plan based on the 4RVE principle (reuse, reduce, recover, recycle, reclaim and dispose). The promoter must specify the measures planned to this effect and how they will be applied. It must also specify whether any improvements could be made to reduce the amount of waste produced.

A waste management plan based on the 4RVE principle has been in place at CRI for several years, and was submitted to the MELCCFP as part of the northern landfill authorization process (Y/Ref.: 7610-10-01-70080-25). It is framed by procedures PRO-NENV-1211-03g - Management of residual hazardous materials and PRO-NENV-1606-01b - Management of residual materials, which are updated regularly to take account of new opportunities with regard to the 3 RVEs[4] or to reinforce roles and responsibilities. CRI's current practices are consistent with the Nunavik Residual Materials Management Plan. These procedures are available at appendix D.

[4] The term 4RVE was used at the time of the 2007 impact study. For the sake of rigor, CRI uses the term 3RVE in its procedures, as the act of recovery only has a positive impact if one of the 3 VRs is applied.

They are communicated to all workers and contractors via generic induction training. They are also included in a general Environment training course, given to all workers and contractors around 3 months after they start work at the mine site, as a reminder. Sorting training is also provided by the Environment department at the request of the various departments. Finally, the procedures make the supervisors of each department responsible for applying the 3 RVEs within their department. This includes the reuse of materials such as wood, plastic and other construction materials.

The Table 2 shows examples of residual materials diverted from LEMN, sorted and sent to authorized processing centers for recovery, recycling or reclamation, as provided for in the two attached procedures.

Table 2: Examples of application of the 3 RVEs to NNiP

Type of material	Application of the 3 RVEs
Used oils	Recovered for energy purposes at the Expo site in accordance with the authorization issued (Y/Ref.: 7610-10-01-70080-26) or shipped south for recovery or reclamation by the Société de gestion des huiles usagées du Québec (SOGHU).
Waste oil and glycol filters	Sent south for recovery or reclamation by the Société de gestion des huiles usagées du Québec (SOGHU)
Domestic waste batteries Used vehicle batteries Electronic equipment / ink cartridges	Shipped south for recovery, recycling or reclamation
Worn tires and rubber	Shipped south for recycling
Disused vehicles and scrap metal	Shipped south for recycling
Fire extinguisher bottles	Shipped south for reuse or recycling
Fluorescent tubes or compact fluorescent bulbs	Shipped south for disposal
Aluminum cans	Shipped to Val d'Or Scouts for recycling
Plastic cubes 1,000 L	Cleaned and reused at the Expo site

The following measures have been added since the procedures were updated:

- Purchase of a deep-cleaning device for personal protective equipment (PPE) to facilitate reuse (e.g. following the departure of an employee). This PPE will be used before new PPE. The process has been in operation since June 2024; the quantities recovered will be recorded to assess the effectiveness of the measure. Considering the ecological footprint of textiles, this measure seems significant to us.
- Acquisition of a dialysis unit to reuse used engine oils at the Mobile Maintenance facility
- Removal of single-use cups (e.g. for coffee) at the Expo camp; a reusable cup was distributed to all workers by the company in charge of the cafeteria service (HN Pituvvik).
- Recycling of residual (cleaned) concrete as backfill in underground mines

Bonus measures have been evaluated in recent years. For example, CRI evaluated the possibility of composting putrescible waste and obtained a preliminary project study for a composter system from Brome Compost in 2023. It was hoped to use the compost to facilitate revegetation efforts for site restoration. The question was submitted to Laval University's Peatland Ecology Research Group (PERG), which concluded that the compost would have little potential for this use. Given the lack of potential use for this compost, and the risk of introducing this exogenous material into the local ecosystem, it was decided not to pursue this pilot project for the time being. CRI had also evaluated the possibility of composting via biopiles, as an amendment for the treatment of soil contaminated during environmental incidents. However, discussions with the firm Avataani-Sanexen revealed that the material contaminated by environmental incidents is essentially aggregate > 2 cm (since most incidents involve anthropogenic environments), and not natural soil, making a biopile treatment project unviable. Continued burning of putrescible materials at LEMN also requires a certain amount of cardboard (dry matter) to allow combustion of the wet matter.

In early 2024, CRI contacted the Kativik Regional Government (KRG) to discuss ways of reducing cardboard and plastic burning. The KRG referred CRI to *Éco-Entreprise Québec* (ÉEQ), which has been mandated to expand curbside recycling in Nunavik. CRI contacted ÉEQ to find out more about curbside recycling and to plan what CRI needed to do to participate. ÉEQ has informed CRI that collection for businesses is not scheduled until 2030; ÉEQ does not have the funding to service businesses such as CRI until then, unless the timetable for implementation of the Extended Producer Responsibility program is brought forward. It would, however, be appropriate for CRI to provide ÉEQ, over the next few years, with a waste audit (quantity and type of material) it plans to return south, to help ÉEQ plan the logistics of transporting the materials. The importance of pre-sorting materials before they are shipped (to remove any putrescible matter, in a much more conscientious manner than is done in the south, given the long storage times for these materials before they are received at a sorting center in the south) was discussed; pilot projects will be carried out in northern villages to this effect. CRI will have to take this challenge into account when assessing the quantity of materials that could be returned to the south.

With a view to improving its Waste Management Plan to reduce the quantity of waste disposed of in the LEMN, CRI will:

- Integrate the 4 measures mentioned above into the next revision of the PGMR and the residual materials management procedures.
- Pursue measures to reduce the use of single-use containers in collaboration with the company in charge of cafeteria services.
- In 2025, develop a waste audit protocol to identify additional means of reduction and obtain data that will be useful for planning ÉEQ's selective collection.

Additional waste reduction measures will be assessed, among other things, according to their economic and environmental viability (consistency with object life-cycle analysis).

The steps taken will be reported in the annual environmental monitoring report (monitoring # 24) sent to the Administrator.

QC 2-6 The proponent must detail all the facilities already in place at LEMN, including the capacity and dimensions of cells, basins, geotubes and waste burning infrastructures. It must also detail the components it plans to add to the site. The proponent must specify the total current and projected surface area of the LEMN.

The installations already in place at LEMN, and which are all included in the ministerial authorization issued, are as follows:

- A burn area measuring 25 m x 23 m, with a surface area of 550 m^2. There is no infrastructure, just an area for open burning, surrounded by containers to limit waste dispersion.
- A 45 m x 22 m landfill cell, with a surface area of 970 m^2 and a capacity of 1,400 m^3, considering a depth of 1 m below natural ground[5] and a height of 1.5 m above natural ground.
- Two 32 m x 24 m treatment system sludge cells, each with a surface area of 720 m^2 and a capacity of just over 300 m^3, considering a depth of 1 m below natural ground.
- A backfill platform for the geotubes, measuring 35 x 23 m, with a surface area of 800 m^2. The geotubes have not yet been installed.
- The current and projected total area is the same, since the landfill cell expansion is planned within the authorized footprint. This occupied area is enclosed by a fence and measures 20,100 m^2 (170 m x 120 m).

The components to be added to the site are:

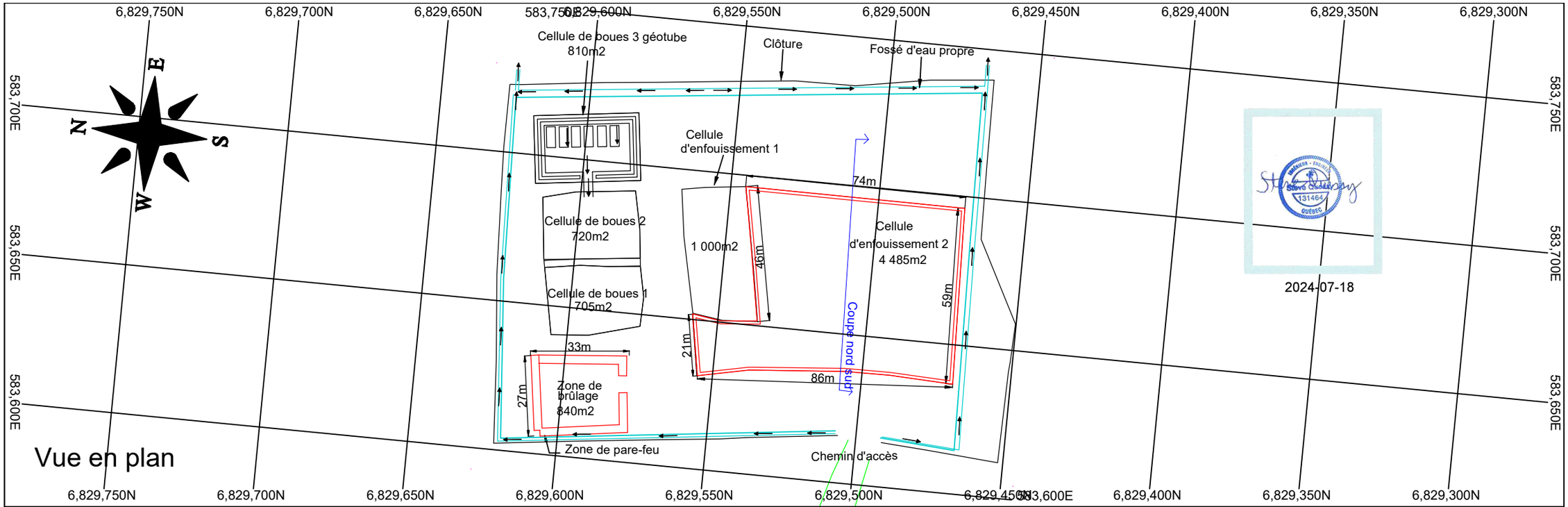
- An extension to the landfill cell. The area added to the cell is 4,485 m^2. Considering a depth of 1 m and a height of 2.5 m, and the loss associated with slopes, the added capacity is 14,128 m^3. The enlarged cell will have a total surface area of 5,485 m^2 and a height of 2.5 m, for a capacity of 17,278 m^3. It was decided to raise the height to 2.5 m rather than 1.5 m, to limit the surface area occupied and remain within LEMN's total authorized footprint. The cross-section of the cell is shown below, together with the LEMN plan (Plan 1). The enlarged cell will be covered with esker material (30 cm) at the end of operations, as stipulated in the ministerial authorization issued and the NNiP restoration plan. To allow for this expansion, the burning area will be relocated within the LEMN.
- Geotubes (between 2 and 10) on the backfill platform, measuring 3 m x 7 m and with a capacity of around 30 m^3 each.

With regard to geotubes, as explained in the response to QC-7 of the submitted response document, the installation and use conditions meet the exemption criteria of sections 198 and 213 of the *Regulation respecting the control of activities having an impact on the environment* (REAFIE). It is the promoter's responsibility to ensure compliance with these conditions.

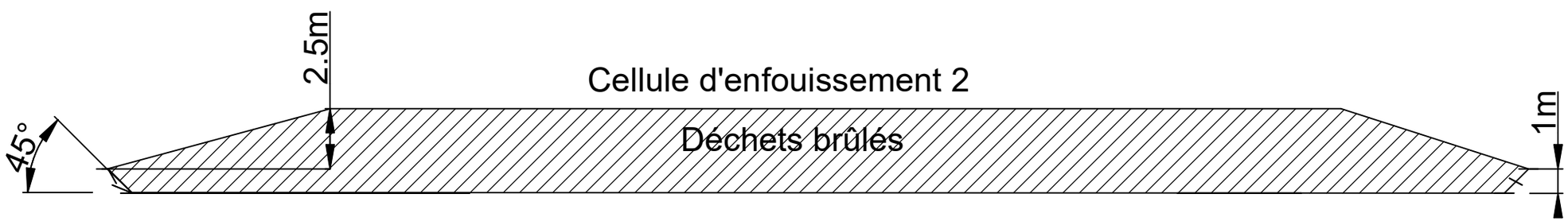
QC 2-7 The proponent must submit an up-to-date map showing the location of the LEMN on the mine site. It must also show on a map the elements currently in place at the LEMN and the projected infrastructures.

A map showing the location of LEMN is presented below (map 1) , including the elements currently in place at LEMN and planned infrastructures.

[5] The depth of 1 m is that stipulated in the ministerial authorization issued, in order to be more than 30 cm from the permafrost.



Vue en plan



Vue en section - Coupe nord-sud

Légende

Planifié

Actuel

NUNAVIK NICKEL

LEMN

Aménagement planifié

Site Expo

Plan 1

Dessiné par:	Date:
Modifié par: AR Pastuch	Date: 2024-07-12 Échelle:
Approuvé:	Date: Imprimé: ----

73°25'40"
73°25'20"
73°25'0"
61°35'30"
61°35'20"

Vers Baie Déception / To Deception Bay

Esker 1

Image de drone / Drone Image (July 2024)

Imagerie ESRI / ESRI Imagery (August 2022)

Lieu d'enfouissement en milieu nordique (LEMN) / Northern Lanfill

Cellule de boues 2 / Sludge Cell 2

Cellule de boues 1 / Sludge Cell 1

Zone des géotubes / Geotube Area

Cellule de brûlage et zone de pare-feu / Burn Cell and Firewall Area

Géotubes / Geotubes (6 m x 7 m)

Cellule d'enfouissement 1 / Landfill Cell 1

Cellule d'enfouissement 2 / Landfill Cell 2

Cellule de brûlage et zone de pare-feu / Burn Cell and Firewall Area

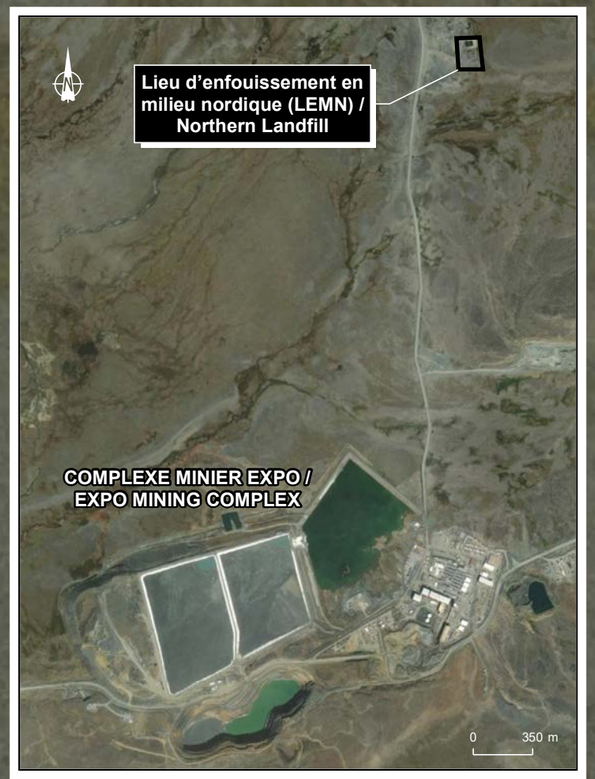
(sera déplacée au nord-ouest pour faire la cellule d'enfouissement 2 / Will be Moved to the Norhwest to Make Landfill Cell 2)

Bail industriel / Industrial Lease

Limite du site / Boundary Site

Bail d'exploitation / Operating Lease

Vers le complexe minier Expo / To Expo Mining Complex



Composantes du projet / Project Components

- Bail d'exploitation ou industriel / * Operating or Industrial Lease
- Limite du site / Boundary Site
- Limite des infrastructures projetées / Limit of Proposed Infrastructures
- Géotubes projetés / Proposed Geotube

* L'empreinte autorisée est assimilée à celle du bail industriel. / The Authorized Footprint is Assimilated to that of the Industrial Lease.

Phase 2a

Addenda à l'étude d'impact environnemental et social / Addendum to the Environmental and Social Impact Assessment

Projet Nunavik Nickel / Nunavik Nickel Project

Certificat d'autorisation nº 3215-14-007

Localisation et aménagement actuel et projeté du lieu d'enfouissement en milieu nordique (LEMN) / Current and Proposed Northern Landfill Location and Development

Sources:

Image de drone/Drone Image, resolution 8 cm, Canadian Royalties, Juillet/July 2024
Imagerie/Imagery: Esri, resolution 50 cm, Maxar, Earthstar Geographics, and the GIS User Community, Août/August 2022
Données de projet/Project Data, Canadian Royalties
Dump km3.dwg, 2022
LEMN Expo (9 Avril 2023).dwg, 2023
LEMN Expo (12 Juillet 2024).dxf, 2024
Cartographie/Mapping: AECOM
Fichier/File: 6063-5966_a-tr_c1_LEMN_240807.mxd

0 20 40 m
UTM, Zone 18, NAD83

Carte / Map 1

Août / August 2024

AECOM · Nunavik Nickel · Canadian Royalties Inc.

4 Geochemical characterization

QC 2-8 The proponent must submit the geochemical characterization report for the Nanaujaq deposit, which was to have been completed in 2023. In addition, other detailed characterization reports dealing with the reactivity of mining materials must be provided to the Administrator as soon as they become available. These studies must be submitted in French, final and signed. Depending on the results of these studies, additional mitigation measures may be required.

As explained in the introduction to this document, the Nunaujaq mine has been withdrawn from the mining schedule. However, a geochemical characterization with static and kinetic tests has been completed; reports will be provided to the MELCCFP upon request.

For the Expo South underground mine, geochemical characterization reports with static and kinetic tests are available at Appendix E. The results indicate (section 4 of the kinetic test report) that most lithologies are classified with acid-generating and leachable potential. The risk class is therefore of the same order as waste rock from the Expo pit and Expo West underground mine operations.

The environmental protection measures included in the kinetic test report (section 5) are in place at the Expo site. Contact water from the temporary ore and waste rock piles is collected and directed to the lower collection pond (LCP) and then to the main collection pond (MCP). Water from the main ore stockpile, near the ore processing plant, is directed directly to the MCP. This was illustrated on maps 8 and 9 in the answers to the first series of questions; a map is again available in Appendix A (Map 1). Water from the MCP is treated by the Expo mine water treatment unit before discharge to the environment. Discharged water is subject to quality monitoring, included in the EMP (monitoring # 3 - Mining effluents).

For the Ivakkak UG and Méquillon UG2 underground mines, the results of geochemical characterizations were presented in response to QC-8 and Appendix E, in the response document sent in May 2023. No additional characterizations are planned. The geochemical characterization report (Golder, 2018) is available in Appendix E.

QC 2-9 The proponent states that: "Where possible, PAG waste rock from these piles will also be returned underground to backfill the drifts". The proponent should describe what it means by "if possible" and what the possible limitations might be.

The proponent must prioritize the return of all PAG and leachable waste rock underground. If not, the proponent must justify why this is not possible.

Ivakkak UG Mine: What could limit the return of PAG waste rock underground for backfill was explained in the response to QC 24 of the document responding to the first series of questions sent in May 2023. A certain granulometry of waste rock is necessary for the strength of the cemented backfill (very large rocks will have too many voids between them, providing insufficient contact surface for the cement). To this end, the waste rock from development of the ramp and underground galleries, which is considered PAG and known to have a finer grain size, will be completely returned underground as a priority. As explained in the answer to QC-11 in the first series of questions, the development sequence of the workcamps means that some of the waste rock will not be brought to the surface; it will be used for backfilling, and it is possible that some of it will be n-PAG. This avoids duplication of handling. The rest of the waste rock will come from the existing PAG stockpile, which contains waste rock from the Ivakkak pit. Based on an examination of the waste rock produced during mining of the pit, CRI's Mining Engineering Department has assessed that the waste rock in the pit can be sorted (without the need for crushing) to select a grain size fine enough for return underground. The impossibility of returning PAG underground would be in a situation where the grading, even with sorting, would not be acceptable. This situation is assessed as highly unlikely. For this reason, the crushing of PAG waste rock will be removed from the CA amendment application for waste

rock crushing at the Ivakkak site, submitted in August 2023 and currently under analysis by the MELCCFP. Questions specific to this activity can be addressed in the questions document specific to this application.

Expo South Mine: No waste rock will be brought to surface, as this is the underground extension of a previously permitted underground mine (Expo West). The waste rock will be used directly to backfill the workings of the Expo West or Expo South mines. Since this waste rock has been characterized as PAG and leachable (see response to QC2-8), the use of PAG and leachable waste rock is preferred.

Méquillon UG2 mine: No waste rock will be brought to surface, as this is the underground extension of a previously authorized underground mine (Méquillon UG1). The waste rock will be used directly to backfill the workings of the Méquillon UG1 and Méquillon UG2 mines. Waste rock from the Méquillon deposit is considered PAG; the use of PAG waste rock is therefore preferred.

Nunaujaq mine: As explained in the introduction to this document, the Nunaujaq mine has been withdrawn from the mining schedule.

5 Exploration and mining

QC 2-10 The proponent must undertake to inform the MELCCFP immediately if changes in temperature or the presence of thawed zones are observed, and, if applicable, of the measures that have been put in place to ensure adequate management of this additional water. In addition, the proponent must include in its annual report a summary of the monitoring data collected by the thermistors.

CRI undertakes to inform the MELCCFP immediately if changes in temperature or the presence of thawed zones are observed and, if applicable, of the measures that are put in place to ensure adequate management of these additional waters. A summary of the data collected by the thermistors will be included in CRI's annual report.

QC 2-11 The proponent must forward the hydrogeological study currently being carried out at the Méquillon site and, if applicable, the hydrogeological studies to be carried out at the Ivakkak and Nanaujaq sites, should thermistances indicate that mining reaches the permafrost limit.

The Méquillon hydrogeological study is available in Appendix F. It was carried out in July 2023. The purpose of the mandate was to assess the presence of groundwater flow around the mine's deepest proposed drifts. Since the ramp giving access to the workings was not sufficiently advanced, drilling was carried out from the surface to perform certain tests:

- Hydraulic impact test
- Profile tracing test

The results demonstrated the potential presence of water flow beyond the presumed frozen zone. Recommendations for further drilling and testing were made. However, as indicated in the report, uncertainties remain as to the actual positioning of the fault in this area. In view of this, the firm responsible for the study (HydroRessources) will first review the data and re-analyze the results based on the new information available, i.e. 1 year of development in the Méquillon UG1 mine. If recommendations for further testing are made, they will be implemented by CRI.

If these tests indicate the need for a more extensive hydrogeological study, particularly to better define the risk of talik and its location, it will be carried out. The updated study, along with the results of the additional tests and any other additional hydrogeological studies, will be forwarded to the Administrator upon request. These documents will be included in the application to amend the ministerial authorization that will be filed for the operation of the Méquillon UG2 mine. The manner in which water would be managed, should water pockets actually be observed, was explained in the response to QC-9 of the first series of questions.

As well, CRI will pass on the hydrogeological studies to be carried out at the Ivakkak site if the thermistors installed indicate that mining has reached the permafrost limit. The Nunaujaq site has been withdrawn from the mining schedule.

6 Crushing and tailings management at Méquillon

QC 2-12 The proponent must submit the final modeling report on dispersion atmospheric contaminants from the Méquillon UG mine activities referred to in its response to question QC-12.

Atmospheric modelling was carried out because of the waste rock crushing activity. As explained in the introduction to this document, waste rock crushing at the Méquillon site is removed from this CA amendment application. The Méquillon UG2 mining operation, which is an underground extension of the authorized Méquillon UG1 mine, does not trigger the need for atmospheric modeling, given that the activities and potential impacts on air quality between the authorized project and the new project are similar.

7 Design of the Nunaujaq sterile storage area

QC 2-13 The proponent must file detailed design studies for the Nanaujaq waste rock pile showing its geotechnical stability, if these are now available.

As explained in the introduction to this document, the Nunaujaq mine has been withdrawn from the mining schedule.

8 Expo South

QC 2-14 The sponsor must provide the stability studies referred to in the answer to question QC-14.

A review of the stability of the waste rock pile at the Expo site, in the form of a technical memorandum, is available in Appendix G. The current configuration and the proposed final configuration (for remediation) are analyzed. The conclusion (section 5 of the memorandum) is that the proposed final configuration meets stability requirements, but that the waste rock pile in its current configuration has low safety factors. CRI takes the stability analysis of the Expo site waste rock pile seriously and has therefore requested a second opinion from another consultant, which will be provided in 6 to 9 weeks' time. The purpose of this 2nd opinion is not to leave the sterile hanger in its current state, but to take a shorter-term look at the risks to stability.

CRI would like to use material from this stockpile within a 3-5 year timeframe (backfilling of the Expo West and Expo South underground mine workings; possible need for material for construction of the next tailings cell, etc.), so the design upgrade could be done at the same time. Starting this summer, CRI's geotechnical team will inspect and record its observations of the Expo waste rock pile monthly. If any problems are found, appropriate corrective work will be carried out, and slopes may be made immediately in areas yet to be determined. It is important to note, however, that no major instability has been noted in the last 10 years. If the counter-expertise reinforces what has been written by WSP, reconfiguration of the waste rock pile could begin as early as 2025, when operations are completed in the Méquillon and Ivakkak pits."

9 Mine water management and treatment

QC 2-15 The promoter must submit the following information, in addition to the answer submitted for question QC-16:

1) The design of the Nanaujaq mine's main collection basin is based on the volume required by Directive 019 to store the operating water volume and the flood volume below the emergency spillway weir. This pond is associated with the management of acid-generating waste rock and includes a retention dike. Thus, Directive 019 stipulates that the recurrence of the project flood to be used as a design criterion is 1:2000. The proponent must confirm that the detailed engineering of the pond and dike will be based on this recurrence.

2) According to the proponent, groundwater protection relies on the presence of permafrost at the Nanaujaq site, which will prevent any infiltration of contact water into the soils beneath the active layer. The proponent must specify whether the design of the pond will take into account the risks of contamination of the active permafrost layer due to thawing of the pond foundation during the summer. In particular, the proponent must specify the risks of migration, during the summer, of contaminants in the permafrost active layer to the surface waters of watercourses located downstream of the pond. Where applicable, the measures that will be applied to prevent the migration of contaminants beyond the boundaries of the basin must be detailed.

3) The developer has to provide the detailed design, which should be available in autumn 2023.

As explained in the introduction to this document, the Nunaujaq mine has been withdrawn from the mining schedule.

QC 2-16 The proponent must complete the study to establish water treatment requirements for the Méquillon and Nanaujaq sites and demonstrate that the Méquillon WTP is capable of treating wastewater from the Nanaujaq site. The proponent must specify the estimated overflow volumes and how it intends to prevent the release of contaminated water into the environment. Where applicable, the proponent must present the necessary adjustments to treatment infrastructures in this application for a CA amendment. The proponent must also submit all the data required to revise the EDOs calculated for the point of discharge. The proponent is invited to consult the following reference and submit an EDO calculation request to the MELCCFP:

- Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC). 2017. Guide de caractérisation physicochimique de l'état initial du milieu aquatique avant l'implantation d'un projet industriel. Direction générale du suivi de l'état de l'environnement, 12 pages + 3 appendices. [Online]. https://www.environnement.gouv.qc.ca/eau/EDO/Guide_physico-chimique.pdf
- MELCCFP, Demande d'objectifs environnementaux de rejet (EDO) pour les eaux usées d'origine industrielle [On line] https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.environnement.gouv.qc.ca%2Feau%2FEDO%2FEDO_industrie.docx&wdOrigin=BROWSELINK.

If exceedances are anticipated, the proponent must provide mitigation measures or justify its inability to implement solutions. It should be noted that the proponent has undertaken to monitor the EDOs and strive to meet them. To ensure consistency with its prior commitments to the project, the promoter must aim for compliance with the AEOs, which are more stringent than Directive 019.

Also, for each Phase 2a site, the proponent must specify whether the project involves an increase in final effluent flow. If an increase in flow is anticipated, the proponent must specify the impact this increase will have on the quality of discharged water and compare anticipated concentrations with the EDOs applicable to the site.

The Nunaujaq mine has been withdrawn from the mining schedule, so it is no longer necessary to demonstrate that the Méquillon WTP can treat wastewater from the Nunaujaq site.

The Méquillon UG2 project, which is an underground extension of a previously authorized mine (Méquillon UG1) does not increase the surface area of the watershed whose water must be directed to the Méquillon site collection basin. In fact, as mentioned in QC-36 of the first FAQ document, cement bags will be opened underground and transferred to a silo. Since there is no risk of cement leaching to the surface, the drainage ditch in the area is no longer needed (see Map 2 in Appendix A). The planned pads will be used to store mining production equipment (bolts, wire mesh, fans, mechanical parts, etc.), cement bags and salt bags; the area does not constitute a risk area. Also, as presented in the CA amendment application, mine water production will be negligible. Consequently, the Méquillon UG2 project does not involve any additional volume of water to be treated, and adjustments to water treatment infrastructures are not required. The project does not involve an increase in final effluent flow beyond that included in the ministerial authorization issued for operation of the water treatment unit, i.e. 187 m^3 /h (Y/ref: 7610-10-01-70080-78). It is therefore not necessary to present all the data to review the EDO. The measures CRI has taken and intends to take to achieve the EDOs are discussed in QC 2-29.

The Ivakkak UG project anticipates that the access portal will be in part of the pit, as communicated to the MELCCFP in August 2023[6] . This ensures that the precipitation watershed is not increased compared to the open-pit operation of the Ivakkak mine. Also, the construction of a contact water ditch illustrated on Map 2 of is no longer necessary, as it had been planned in view of the waste rock crushing activity planned at this location. However, as explained in QC 2-9, crushing of PAG waste rock will not be necessary. Crushing of non-PAG waste rock, for upgrading as construction material for the Delta Project road, would only be required after the Ivakkak UG mine has ceased operations, in accordance with the mining schedule presented at the beginning of this document. Crushing will be carried out within the already authorized footprint of the Ivakkak OP mining operation. Issues specific to the waste rock crushing operation will be addressed in the project-specific application. Map 2.2 and Map 6 at Appendix A illustrate the Ivakkak site with the planned pit pad, which remains the same as previously presented, with the exception of the collection ditch and the planned extension for the crushing operation. Also, as presented in the application to amend the certificate of authorization, mine water production will be negligible. Consequently, the Ivakkak UG project does not involve an increase in the volume of water to be treated. The project does not involve an increase in final effluent flow beyond that included in the ministerial authorization issued for operation of the water treatment unit, i.e. 187 m^3 /h (Y/ref.: 7610-10-01-70080-85).

The Expo South project is an underground extension of an already authorized mine (Expo West). Only the relocation of the temporary ore shed adds a surface area to be drained, which has been included in the water balance and is negligible on the scale of the Expo site (approximately 0.022 km^2 of catchment area). The Expo South project does not involve an increase in final effluent flow beyond that included in the ministerial authorization issued for operation of the water treatment unit, i.e. 794 m^3 /h (Y/Ref.: 7610-10-01-70080-68).

QC 2-17 The proponent must undertake to file more detailed information on the quantity of mine water generated by an underground mine in permafrost conditions in its annual report:

1) Data on volumes of mine water pumped from the Expo West underground mine, including water required for mine operations and mine water seeping into underground workings;

2) An estimate of the volumes of mine water that will be pumped from the Expo South mine.

CRI undertakes to include in its annual monitoring report, following the issuance of the amendment to the certificate of authorization for phase 2a:

1) Available data on volumes of mine water pumped from the Expo West underground mine, including water required for mine operations and mine water seeping into underground workings.
2) Estimated volumes of mine water to be pumped from the Expo South mine

[6] Document name: Response to questions and comments from the Kativik Environmental Quality Commission (KEQC) - Phase 2a - Replacement of response to QC-1

QC 2-18 In the adaptation measures compiled in Table 20, for the water management component, mention is made of regular monitoring of the condition of RAP facilities and collection basins, inspection of pipes and ditches, and checking for erosion of waste and ore stockpiles, in accordance with a mining facility monitoring procedure derived from CRI's facility operation, maintenance and monitoring manual. According to the proponent, these observations are compiled in a report. New measures have also been added, such as drainage system capacity studies and increased monitoring of facilities following heavy precipitation.

The proponent must include a summary of this monitoring in its annual monitoring program submitted to the Administrator. The proponent must specify when the MCPs are emptied before freeze-up each year, and the volumes discharged. Where applicable, the proponent must specify whether water was discharged through the emergency spillway and describe the event.

CRI will add a summary of this monitoring to its annual monitoring program. Please note that MCPs are not emptied on a one-off basis. Water from MCPs located on sites with a water treatment unit (WTP), such as Expo, Mesamax, Méquillon and Ivakkak, is pumped to the WTP for treatment before discharge to the environment, which takes place over approximately 90 days between late June and early October. These discharges start and end dates are already included in the annual monitoring report submitted to the Administrator (monitoring #3 - Mining effluent). Water from the MCPs at the other sites, i.e. Allammaq and Puimajuq, is pumped over several weeks, between late June and September, to the Mesamax MCP for treatment at the WTP. These dates will be added to the annual monitoring program. It will also be specified whether any water has been discharged via the emergency spillway, and the event will be described.

QC 2-19 In response to QC-41[7] , the proponent mentions downstream collection basins (DCBs), but these do not appear to be shown on the maps of the various operating sites. The proponent must justify the purpose of the ACOs and specify their location. The proponent must clearly locate each of the infrastructures on the mine sites and identify them correctly. We also understand that the main collection basin (MCP) corresponds to the "MCP" basin on the maps.

The response to QC-40 (more specifically, section 2 of response 40.2) refers to *the* ACO, not *the* ACOs, for the Ivakkak site. Its purpose is explained in the same paragraph, namely, to collect contact water from the PAG waste rock pile, the ore stockpile and the open pit perimeter, for pumping to the MCP. This ACO is included in the ministerial authorization issued for open-pit mining at the Ivakkak site. It is illustrated and identified on the maps of the Ivakkak site submitted to the MELCCFP, including the one available at Appendix A of present document (map 6), as LCP (*lower collection pond*). We confirm that the terms MCP and MCP (*main collecting pond*) refer to the same type of structure, i.e. a main collecting pond.

QC 2-20 In response to QC-41, the proponent mentions installing a mobile water treatment plant to treat the water collected in the MCP before it is released into the environment. Since water treatment plants are authorized only at the Méquillon, Mesamax and Expo sites, the proponent must clarify what is meant by a mobile plant.

The mobile water treatment plant referred to in the response to QC-40 (more specifically, section 2 of response 40.2) refers to the water treatment plant (WTP) for which a ministerial authorization has been issued, in 2022, in conjunction with the operation of the Ivakkak site (Y/Ref.: 7610-10-01-70080-85). The MELCCFP can refer to it for any clarification of its characteristics. The WTP has been in operation since August 2023. We recognize that the wording of the sentence mentioning the WTP (*A water treatment plant is then set up*) is confusing as to its temporality.

[7] The MELCCFP confirmed to CRI, by e-mail communication from Ms Jessica Hawey, that it refers to the response to QC40.

QC 2-21 An application to amend a certificate of authorization for the development of new deposits must be accompanied by a complete description of the water management associated with this development. The proponent must submit all this information:

1) The proponent must clarify how water accumulating in the Expo pit (supernatant) will be managed, and the timetable for implementation (recycling vs. water treatment). It must also provide details on cells 1 and 2 of the tailings facility.

Water management in the pit and cells is detailed in the *Expo pit tailings facility design* report by WSP-Golder, in sections 5.2, 6.2 and Appendix C. The report is available in Appendix F of the addendum submitted in June 2022 for Phase 2a projects.

As regards cells 1 and 2, since September 2022, water from these cells is no longer pumped to the concentrator for recycling, as the water level no longer allows pumping. Water from cell 2 is pumped into cell 1 pending construction of the weir between cell 1 and 2. When the weir is built, the water will flow through the weir. Water from cell 1 passes through the weir in cell 1 to discharge into the MCP. This will continue to be the case from now on, following the restoration of the cells, in accordance with current plans.

2) The proponent must specify how water accumulation in the Expo pit is monitored to reduce the risk of overflow.

The tonnage of tailings discharged into the pit is accounted for via the metallurgy accounting system. We have precise daily data. The level of sludge and water in the pit is determined by a survey carried out at least twice a year, at the beginning of the summer season and at the end. We are therefore able to determine the proportion of water and talings following these surveys. The precise water management schedule is then updated on the basis of these measurements to ensure that, in the short and long term, water levels in the pit are kept under control. Bathymetry campaigns may be carried out in the future to determine the volume of solids present under the water cover. Closer monitoring will be carried out as the pit fills up.

3) In the remediation plan authorized in the CA amendment of January 6, 2022, the proponent argued for the importance of accumulating 50 m of fresh water above the tailings, pumped from Bombardier Lake, to limit the potential for oxidation and leaching of metals through the walls. The proponent must justify how this risk will be managed in the absence of this layer of water.

Under the previous project, 2.91 Mt of tailings were allowed to be deposited, which meant that the pit was not filled with tailings. The planned remediation method was therefore accelerated flooding of the pit with clean, low-metal water from Bombardier Lake. The presence of 50 m of water between the surface of the tailings and the surface strongly limited the potential for oxidation and leaching of the tailings and pit walls. In this project, the pit is filled with tailings, making it impossible to cover the tailings with a thick layer of water. The remediation method is described in the WSP report (section 6.0). A method similar to that used in Cells 1 and 2 is employed. When the cell is filled, there will be no water on top of the tailings. A geomembrane is laid over the tailings following two layers of esker-type material, illustrated in Figure 5 of the WSP report. The profile allows water to drain away from the covered area.

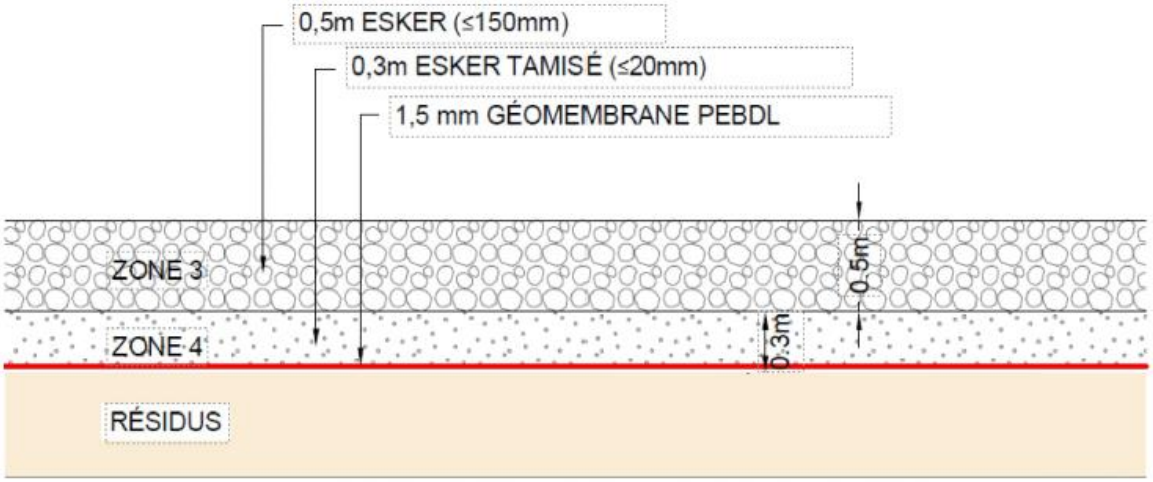


Figure 1: Typical cross-section of the closure cover

4) The proponent mentions that in the absence of other water management infrastructure, tailings deposition will have to be stopped so as not to occupy more space in the pit. The proponent must expand on this statement and provide all relevant information to analyze this element in the context of the current amendment. The proponent must specify, but not be limited to, the water source in question, provide the water balance, the required capacity in m3, specify the location of the basin, etc. The proponent must also describe the potential impacts of this infrastructure and the mitigation measures.

The mention of another water management infrastructure was introduced in the CA amendment application, filed in June 2022, in section 5.2.5.1 in this way:

"Towards the end of pit filling (2030), the storage volume available in the pit will no longer be sufficient to contain the project flood (24-hour rainfall with a 1000-year return period) or the volume of water due to snowmelt without overflow to the environment. Water volumes relating to the pit will then have to be redirected to another water management infrastructure, to be determined in a later phase of the project".

The MELCCFP asked QC-22 in the first round of questioning to provide a preliminary description of the options being considered for the development of this surplus water management infrastructure. CRI provided a brief description of the two options under consideration, either the use of the next tailings cell or a pond designed within the Expo site.

CRI confirms that the chosen option is the next tailings cell. The status of project development is detailed in the response to QC2-26. The application to amend the certificate of authorization for Phase 2a projects filed in June 2022 mentioned that steps would be taken to develop the next tailings infrastructure project. If this element were to be analyzed as part of this current amendment, the MELCCFP would have communicated it to CRI before or as part of the first series of questions sent in January 2023. The information requested will be transmitted when the amendment application is submitted to the CA for the next tailings cell, scheduled to be filed between late 2025 and early 2027, depending on the studies to be carried out and the results of consultations with the communities. It should be remembered that the WSP design report indicates that these volumes of water will have to be directed to an infrastructure only towards the end of pit filling, i.e. 2030.

Finally, regarding this excerpt from the response to QC-22: "First, it should be noted that in the absence of other authorized water management infrastructure, tailings deposition will have to be stopped so as not to occupy additional space in the pit. CRI's intention was to communicate, in the interest of responsible management of mining infrastructure, that the storage volume available for the project flood is a priority and will be preserved, even if this means that CRI will have to stop tailings production until the water can be transferred to an authorized infrastructure.

5) The developer must provide a schedule for the construction and operation of the water management infrastructure.

As explained in the previous section, the other water management infrastructure will be the next tailings cell, and its status is detailed in QC2-26 of this document.

10 Tailings management

QC 2-22 Residual storage capacity in each cell as of January 1, 2022, was 575,000 m^3 for cell 1 and 185,000 m^3 for cell 2. Since the Expo pit reached its maximum authorized capacity of 2.91 Mt (1.96 Mm^3) for tailings storage in early 2024, the proponent must describe the measures implemented to continue current ore processing and store the tailings generated.

CRI continued to deposit tailings in the Expo pit. CRI informed the MELCCFP on November 27, 2023, when monitoring of the deposition indicated that the total authorized quantity was approaching. It was explained that this situation would not constitute a problem in terms of environmental risk; below is an excerpt adapted from the e-mail:

"The maximum volume had been set at 2.91 Mt (1.96 Mm3) of tailings, from the perspective that this was the quantity expected to be produced according to the mine development plan used for the design report by Golder (now WSP) in 2020 and submitted as part of the project analysis process. The plan called for the creation of a pit lake. Since then, following the addition of mining projects to NNiP's development plan, the quantity of tailings to be produced has been revised upwards, and the design report revised by Golder (WSP) in 2022[8] to allow for complete filling with a watertight cover. This change in tailings management was submitted to the MELCCFP in June 2022 for approval as a project related to the Phase 2a mining projects. The project is still under review by the MELCCFP's *Direction de l'évaluation environnementale des projets industriels et miniers*.

This situation will not constitute an environmental risk issue, as the revised design report provides for the storage up to an elevation of 534.5 m, while it is planned at 506.9 m at the end of 2023, and demonstrates the absence of any additional risk of environmental contamination. The level of tailings in the pit and the total quantity stored will continue to be monitored on a regular basis. The total quantity of tailings expected to be stored in the pit for 2023 and 2024 is detailed in the table below.

[8] Golder associés (Ltée) (Golder), 2022 – Design of a Mine Tailings Storage Facility in the Expo Pit. Report 1032-21501936-RF-Rev0. Document submitted at Appendix F of ESIA addenda submitted in june 2022.

The overrun occurs prior to production start-up of the mining projects included in the application to amend the Phase 2a Certificate of Authorization, as tailings deposition in cells 1 and 2 has been interrupted to refine the tailings deposition plan for cell closure. This final deposition must be finely planned and executed to maximize the filling of these cells. Tailings have been deposited in the Expo pit since February 21st 2022[9]. However, they will be deposited again in tailings cells 1 and 2 in 2024 and 2027. Overall, the deposition schedule therefore remains the same as that presented in the design report (2022-2034)."

The detailed deposition plan for cells 1 and 2 is available in Appendix H. Based on parameters such as tailings cell construction, ongoing work at Cells 1 and 2 to finalize the inter-cell weirs planned in the design, and bathymetry performed in August 2022, the report predicts a residual storage capacity of 689,580 m^3 in Cell 1 and 541,977 m^3 in Cell 2. This residual storage capacity of tailings is slightly higher than that estimated in January 2022, which was at a higher level and as part of a design report that focused on tailings deposition in the pit, and not the residual capacity of Cells 1 and 2. The final elevations to be achieved are included in the report, which will facilitate tracking of deposition against total cell capacity. These elevations also consider the watertight cover to be added during the closure and restoration of cells 1 and 2.

QC 2-23 Based on a tailings/mining ratio of 0.96, total tailings production for Phase 1 and 2 of the mining projects is estimated at 17.33 Mt, including 4.39 Mt for Phase 1 and 12,94 Mt for Phase 2(a and b). However, the sum of the quantities of tailings generated presented in the application documents for each deposit is significantly lower. The total storage capacity currently authorized is 11.01 Mt, including cells 1 and 2 as well as the Expo pit. The proponent must specify tailings production for each of the Phase 2a and 2b mines.

The Table 3 brings together the data presented in Tables 5-10, 5-24, 5-35 and 5-47 of the Certificate of Authorization amendment filed in June 2022, for tailings production.

Table 3: Tailings production forecast for each Phase 2a mining project presented in June 2022

Phase 2a deposit	Ore (t)	Tailings (t)	Tailings/ore ratio
Ivakkak UG	410 832	381 059	0,928
Méquillon UG2	1 446 727	1 342 372	
Nunaujaq	1 370 509	1 271 651	
Expo South	680 703	631 603	
Total	3 908 771	3 626 685 T	

Historical mill production data show a tailings production ratio ranging from 0.83 to 0.93, depending on the deposit's copper and nickel content. Accordingly, a ratio approaching 0.93 was used for the Phase 2a tailings production estimate in the addendum submitted in June 2022.

The tailings production schedule used for the May 2022 Expo pit tailings deposition design report (WSP) used slightly different forecast ore production data, as the number of ore tonnes deemed economically viable varied over time. The differences are minor and are presented in Table 4. It was prudently chosen to use a more conservative ore-to-tailings ratio for the design of the report than what the historical ore mill performance data predicts for future Phase 2a mines (0.96).

[9] The following answers and tables will be based on a repository of the tailings in the pit from 1 March onwards to simplify the presentation of information

Table 4: Ore tonnage used and tailings production in the May 2022 Expo pit tailings deposition design report

	Ore tonnage (kt) used in WSP's 2022 design report	Tonnage of tailings (kt) associated with ratio 0.96
Phase 1 (including Méquillon UG1 and Expo West)	4 587	4 381
Expo South	477	454
Ivakkak UG	912	871
Méquillon UG2	918	878
Nunaujaq	1 253	1 197
Subtotal phase 2a	*3 560*	*3 400*
Phase 2b	10 064	9 552
Total phase 1 and 2 (a and b)	**18 211**	***17 333***

The **Erreur ! Source du renvoi introuvable.** shows tailings production by deposit, updated according to the mine production schedule presented at the beginning of this document, for each of the Phase 2a and 2b mines. The mine plan's tailings/mining ratio ranges from 0.86 to 0.924, depending on copper and nickel grades, which vary from deposit to deposit and between mining years. The table shows tailings production based on the mine plan's average radio (0.9) and on the radio used in the May 2022 design report (WSP) to also present a conservative forecast. This shows that the Phase 2a deposits will contain between 3,388 t and 3,614 t of tailings, which is consistent with the data presented above, considering the slight variations in ore production during mine plan updates. Volumes are calculated using WPS design report density (1.483 t/m^3).

Table 5: Tailings production from each Phase 2a deposit by mine, based on August 2024 mine production schedule

Deposit	Planned ore extraction	Tailings with tailing/ore ratio 0.9		Tailings with tailing/ore ratio 0.96	
	kt	kt	m^3	kt	m3
Phase 1[a]	4 638	4 174	2 815	4 452	3 002
Expo South	396,4	356,8	240,6	380,6	256,6
Ivakkak UG	1 203,0	1 082,7	730,1	1 154,9	778,7
Méquillon UG2	2 165,2	1 948,7	1 314,0	2 078,6	1 401,6
Nunaujaq	0	0			0
Total phase 2a	3 764,6	3 388	**2 284,7**	**3 614,1**	**2 437,0**
Delta OP	325,6	293	197,6	312,6	210,8
Delta UG	1 986,4	1 787,7	1 205,5	1 906,5	1 285,9
Total phase 2b	2 312,0	2 080,7	1 403,1	2 219,5	1497,6

[a] The quantity represent planned extraction to come after August 1st 2024. Phase 1 deposits are: Ivakkak OP, Méquillon OP, Expo West, Méquillon UG1 and the Mesamax OP extension.

It should be remembered that the tonnage of ore extracted from mines in a given year may differ from the tonnage introduced into the ore treatment process (milled tonnage), for reasons of operational optimization explained above. For a given year, it is the tonnage milled that determines the quantity of tailings produced. A schedule of tailings production and deposition for the entire duration of the PNNi operation is presented in the response to QC 2-24 (Table 7)

QC 2-24 Based on projected tailings volumes, tailings storage capacity was expected to be reached in October 2024. The proponent must justify why this capacity was reached sooner than expected. The proponent must validate the tailings to ore ratio. The proponent must provide a balance sheet of annual ore, waste rock and tailings production since the start of site operations. The proponent must also provide a detailed tailings deposition plan for each deposit, for the entire operating life.

The initial deposition plan called for cells 1 and 2 to be filled before deposition in the pit could begin. However, since March 2022, there has been no deposition in cells 1 and 2. Reaching the authorized storage quantity before October 2024 is directly linked to the fact that there is still deposition space available in cells 1 and 2, and not to an incorrect assessment of the tailing/ore ratio. It should be remembered that the authorized storage quantity has been reached, not the storage capacity of the Expo pit. This authorized quantity derives from the mining plan presented in the application to amend the CA filed in February 2021 and authorized in February 2022, as explained in the Introduction section of this document.

The main factor preventing further deposition in cells 1 and 2 is the absence of a spillway between cell 2 and cell 1. Without the spillway, water management is not possible at this stage of cell filling. As for cell 1, an error was made when the spillway was built in 2021. It was built at a lower elevation than planned, which limited the filling of the cell. It is planned to raise the spillway of cell 1 so that it returns to its designed capacity. This work is scheduled to be completed by the end of 2024. The remaining capacity of tailings cells 1 and 2, based on the detailed deposition plan (WSP, 2024), has been specified in the response to QC 2-22.

Table 6 summarizes the storage capacity of the PNNi tailings management infrastructure. The deposition plan is then detailed in Table 7. Table 6 shows that the total storage capacity at the Expo site, considering the remaining capacity of cells 1 and 2, as well as that of the Expo pit as determined by the WSP design report, is greater than the tailings production associated with the Phase 1 and Phase 2a deposits.

Table 6: Summary of tailings storage capacity at PNNi as of August 2024

Infrastructure	Total capacity	Stored volume	Remaining capacity	Storage start date[d]	Completion date according to mine plan
	km^3	km^3	km^3		
Cells 1 and 2	n/a[c]	7 497[c]	1 231,8	2013	2027
Cell 3 (Expo pit) - authorized storage capacity based on mining plan for early 2021	1 960	1 960	0	Q1 2022	Q1 2024
Cell 3 - Expo pit - additional storage required in phase 2a to reach total capacity of 11,688 km^3	6 597	334,2	6 262,7	Q4 2023	Q4 2030
Cell 3 (Expo pit - authorized phase 1 + requested phase 2a)	8 557[a]	2 294[d]	6 262,7	Q4 2023	Q4 2030
Total present storage capacity (remaining capacity cells 1&2 + Expo pit)	-	-	**7 494.5**	-	-
Cell 4 (next tailings accumulation area)	10 529[b]	0	10 529	2030	> 2036
Quantity of taillings to be stored for Phase 1			*2 815*		
Quantity of tailings to be stored for Phase 2a			*2 285*		

[a] The design report defines total capacity based on reaching the 534.5 m level, which corresponds to an estimated volume of 8,556,979 m^3

[b] Estimated volume on variant analysis report

[c] The original measured data is in tonnage, i.e. 11,117 kt; based on the tailings production balance presented below and what has been deposited in the Expo pit since March 2022. Conversion to volume is based on the use of density as established in WSP's May 2022 design report. The data to be considered is the remaining capacity, based on bathymetry carried out in August 2022. Similarly, the total cell capacity is not applicable; the deposition plan described in the response to QC2-22 provides for the final elevations to be reached. Backfilling of the underground mine can be carried out without crushing the waste rock for the first few years of operation; the waste rock crushing activity will be submitted for approval in a CA amendment application in 2025.

[d] Estimated quantity in date of August 1st 2024

Q: Quarter of the year

The Table 7 details the tailings production and deposition schedule, updated in line with the mine production schedule presented at the beginning of this document. The years of completion of existing tailings storage areas and the commissioning of the next storage area are highlighted. The deposition plan should be expressed by year, not by deposit. Deposits are not mined successively, but rather simultaneously. As a result, the ore feed to the mill is a mixture of ore from the operating mines. Tailings production is therefore a combination of all deposits.

This schedule (Table 7) assumes a daily processing rate of 4,808 t/day in 2026, which is what is desired if all permits are issued[10]. If the rate remains at 4,500 t/day for 2026, tailings production will be lower. For example, for a tailings/ore ratio of 0.90, production of 4,500 t/day represents 308 t/day less, or 277 t/day less in tailings. Over one year, this represents around 101,200t less tailings. The schedule presented is therefore conservative and avoids underestimation. The tailings/mining ratio is established by the metallurgists, based on their expertise, historical mill production data and the copper and nickel grades of future deposits. The ratio may therefore differ from one year to the next, and from the 2013 to 2023 production years, as deposit grades vary[11] .

[10] As explained in the introduction to this document, an application to amend the CA will be filed in early 2025 to increase the mill throughput rate to 4,808 t/day and to mine the Inukshuk deposit underground.

[11] For example, if the tailings to ore ratio increases due to a lower grade, e.g. to 0.93 instead of 0.90, this would translate into an increase in tailings production relative to ore fed of around 3%. Over 1 year, for 4,808t/day, this would represent around 53,000t of tailings produced. The ratio therefore has little impact on the tailings production schedule.

Among other things, the table illustrates:

- The quantity of tailings stored in the Expo pit at the beginning of 2024 and the completion of the filling of the quantity authorized to be deposited in the Expo pit under the amendment to the CA issued in January 2022 (blue boxes and border). This quantity (2.91 MT) was reached in early 2024.

- Completion of tailings cells 1 and 2 scheduled for 2027 (yellow boxes and borders). The sum of the volumes to be stored (760,000 m^3) corresponds to the capacity forecast in the May 2022 WSP report and mentioned in the wording of QC 2-22. It was decided to retain these values for the Table 7 even though the detailed deposition plan for cells 1 and 2 mentioned in the response to QC 2-22 provides for a higher residual capacity as also presented in **Erreur ! Source du renvoi introuvable.**. This allows us to remain cautious as to when the Expo pit will be filled.

- Completion of the Expo pit is scheduled for 2030 (purple boxes and borders).

- Commissioning of the next tailings accumulation area. The quantity of tailings forecast in the variants analysis, as discussed in the response to QC 2-26, is 7.1 MT, which is greater than the cumulative tailings forecast with the mining schedule (6.2 MT; green box), thus creating an additional contingency.

The balance of ore processed at the mill and tailings production since the start of mill operations (2013) is shown in Table 8. The balance sheet for ore production (ore extracted from deposits) and waste rock production is presented in **Erreur ! Source du renvoi introuvable.** and in **Erreur ! Source du renvoi introuvable.**.

Table 7 Tailings production and deposition schedule based on June 2024 mining schedule

Mine	Units	Total	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Mequillon OP	(kt)	548,04	548,0	-	-	-	-	-	-	-	-	-	-	-	-
Mesamax OP	(kt)	155,74	-	-	-	66,8	88,9	-	-	-	-	-	-	-	-
Ivakkak OP	(kt)	569,09	569,1	-	-	-	-	-	-	-	-	-	-	-	-
Delta OP	(kt)	325,60	-	-	-	-	-	-	325,6	-	-	-	-	-	-
Allammaq UG	(kt)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Expo UG W	(kt)	474,23	474,2	-	-	-	-	-	-	-	-	-	-	-	-
Expo UG S	(kt)	396,45	-	396,4	-	-	-	-	-	-	-	-	-	-	-
Inuksuk UG	(kt)	6 550,54	-	-	-	118,6	891,7	1134,6	1129,2	1018,0	1061,2	1013,7	183,5	0,0	0,0
Ivakkak UG	(kt)	1202,97	-	-	277,4	425,6	500,0	-	-	-	-	-	-	-	-
Mequillon UG1	(kt)	4 090,86	360,9	1186,0	1463,9	1080,0	-	-	-	-	-	-	-	-	-
Mequillon UG2	(kt)	2 165,20	-	-	-	202,4	776,8	616,0	190,0	380,0	-	-	-	-	-
Delta UG	(kt)	1986,37	-	-	-	-	-	-	111,5	337,5	384,2	384,8	376,3	349,7	42,4
Total ore extracted	**(kt)**	**18 465,08**	**1952,3**	**1582,5**	**1741,3**	**1893,4**	**2257,4**	**1750,7**	**1756,3**	**1735,4**	**1445,4**	**1398,5**	**559,8**	**349,7**	**42,4**
		1787,7													
Nickel grade	(%)	**0,93**	0,77	0,74	0,60	0,71	0,76	0,75	0,96	1,05	1,33	1,47	1,72	1,73	0,89
Copper Grade	(%)	**1,11**	1,01	0,87	0,86	0,99	1,07	1,16	1,14	1,19	1,37	1,59	1,34	1,04	0,49
Total ore milled	T	**18 801 476**	**1 647 000**	**1 642 500**	**1 754 920**	**1 754 920**	**1 754 920**	**1 754 920**	**1 754 920**	**1 754 920**	**1 754 920**	**1 754 920**	**1 080 452**	**349 750**	**42 414**
Inventory (janv 2024)		**(336 398)**													
Nickel grade	(%)		0,74	0,73	0,65	0,71	0,77	0,65	0,93	0,99	1,14	1,24	1,27	1,73	0,89
Copper Grade	(%)		0,96	0,88	0,88	0,99	1,08	0,99	1,10	1,13	1,23	1,33	1,26	1,04	0,49
Concentrate	T		140 644	134 086	133 730	145 647	158 281	144 889	179 270	187 457	211 936	227 924	137 344	49 665	3 298
Tailings	T		1506 356	1508 414	1621 190	1609 273	1596 639	1610 031	1575 650	1567 463	1542 984	1526 996	943 108	300 085	39 116
Ratio tailings/ore			0,915	0,918	0,924	0,917	0,910	0,917	0,898	0,893	0,879	0,870	0,873	0,858	0,922
Tailings cells 1/2	T		74 355	426 363	426 363	200 000									
Tailings cells 1/2	m3		50 138	287 500	287 500	134 862									
Tailings Expo pit	T		1432 001	1082 051	1194 828	1409 273	1596 639	1610 031	1338 569						
Tailings Expo pit	m3		965 611	729 637	805 683	950 285	1076 628	1085 658	902 609						
Cumulative tailings Expo pit	T	2 839 855	4 271856	5 353 907	6 548 735	7 958 008	9 554 647	11 164 678	12 503 247						
Cumulative tailings Expo pit	m3	1914 939	2 880 550	3 610 187	4 415 870	5 366 155	6 442 783	7 528 441	8 431 050						
Tailings future cell	T								237 081	1567 463	1542 984	1526 996	943 108	300 085	39 116
Tailings future cell	m3								159 866	1056 954	1040 448	1029 667	635 946	202 350	26 376
Cumulative tailings future cell	T								237 081	1804 544	3 347 529	4 874 525	5 817 633	6 117 718	6 156 834

Pale green shading: Deposits associated with Phase 1; the Mesamax pit extension, although associated with Phase 1, has not yet received all required approvals.

Orange shading: Phase 2a deposits

Blue boxes and borders: Completion of the filling of the authorized quantity to be deposited in the Expo pit under the amendment to the CA issued in January 2022.

Yellow boxes and borders: End of filling of tailings cells 1 and 2 scheduled for 2027

Purple boxes and borders: End of pit filling Expo planned for 2030

Box and bright green border: End of expected tailings production, which has an accumulation that is less than the volume expected to be included in the options provided for in the variant analysis filed in response to QC 2-26

The Delta UG and Delta OP mines constitute phase 2b of the PNNi and are currently being analyzed by the MELCCFP; an application to amend the CA for the Inukshuk mine will be filed in early 2025.

Table 8: Summary of ore processed, and tailings produced since the start of ore plant operations

Year	Concentrator-milled ore (T)	Tailings (T)	Tailings/Ore ratio
2013	609 096	536 664	0,881
2014	839 054	710 570	0,847
2015	1 254 719	1 103 594	0,880
2016	1 389 208	1 237 084	0,890
2017	1 500 177	1 317 527	0,878
2018	1 618 526	1 436 870	0,888
2019	1 642 496	1 484 554	0,904
2020	1 646 997	1 522 413	0,924
2021	1 642 497	1 531 149	0,932
2022	1 642 498	1 522 060	0,927
2023	1 662 472	1 555 029	0,935
Total (t)	15 447 740	13 957 514	
Total (m)[1]	n/a	9 411 675	

[1] Tailings have been deposited in the Expo pit since March 2022

Table 9: Summary of ore production (ore extracted from deposits) since the start of operations

Ore							
Year	Expo (OP/ UG)	Mesamax	Allammaq	Méquillon	Puimajuq	Ivakkak	**Total produced per year**
2011							0
2012							0
2013	174 291	717 046					891 337
2014	5 033	674 767					679 800
2015	541 858	354 573					896 431
2016	1 475 021	239 329	233 922				1 948 272
2017	736 711	0	502 356				1 239 067
2018	1 199 173	0	595 059				1 794 232
2019	1 171 708	0	316 538	6 835			1 495 081
2020	0	4 326	410 484	560 216			975 026
2021	0	139 681	441 625	6 58 041	10 353		591 659
2022	19 151	73 513	296 796	356 798	235 216		981 474
2023	526 163	0	288 369	545 641	21 483	295 188	1 676 844
Total by deposit	5 849 109	2 203 235	3 085 149	1 469 490	267 052	295 188	13 169 223[1]

[1] The difference between total mined and total milled in Tables 8 and 9 is due to a quantity of marginal (lower-grade) ore from Expo and Mesamax that could be processed at the concentrator. This tonnage is included in the waste rock balance. The tailings production forecast is based on mill tonnage at the concentrator, so this does not impact tailings production accounting.

Table 10: Summary of waste rock production since the start of operations

Sterile							
Year	Expo (OP/ UG)	Mesamax	Allammaq	Méquillon	Puimajuq	Ivakkak	**Total produced per year**
2011	900 000						1 392 299
2012	2 920 000						2 784 597
2013	2 784 597	2 449 527					5 234 124
2014	1 213 163	1 172 139					2 385 302
2015	4 664 979	439 746					5 104 725
2016	4 796 504	215 251					5 011 755
2017	3 813 999		67 500				3 881 499
2018	3 153 389		61 650				3 215 039
2019	2 141 339		78 150	1 926 349			4 145 838
2020	0	435 555	232 445	4 652 986			5 320 986
2021	0	1 496 285	281 174	2 494 260	5 73 175		4 271 719
2022	148 578	502 724	72 545	1 408 351	1 127 543	54 556	3 314 297
2023	128 349	0	0	1 841 182	42 387	4 777 833	6 789 751
2024	0			646 422		2 468 459	3 114 881
Total by deposit	27 021 793	6 711 227	793 464	12 969 550	1 169 930	7 300 848	

N.B. Black squares indicate a value of 0 ton.

QC 2-25 The design report (Golder 2022) states that "Storage of Phase 2 tailings in the Expo pit provides capacity until 2031" and that 3.53 Mt of tailings will have to be stored in a new, as yet unknown, tailings facility. However, in response to QC-23, the proponent mentions that a surplus is estimated at 4.35 Mt, and that the pit's capacity would allow storage for operations up to 2034. The proponent must clarify and justify the excess quantity of tailings to be stored for each phase, as well as the timetable.

The value of 4.35 MT was taken from a draft version of the WSP report. The answer to Q-23 should have mentioned 3.53 MT, as stated in section 5.1.5 of the design report (Golder, May 2022).

Concerning the quantity of tailings to be stored for each phase, as indicated in the response to QC 2-24, the deposition plan is expressed by year and not by deposit, since deposits are mined simultaneously and not successively. The Table 7 presented in QC-26 shows the excess tailings to be stored per year (in the "Future tailings facility" line), as well as each deposit scheduled to be mined in each year. The quantity of tailings to be stored beyond 2030 is not surplus in the sense of being greater than anticipated. It is more than the natural storage capacity of the Expo pit, now the 3^{ième} tailings cell, so it is not a design error either. Tailings more than pit capacity, all deposits combined, will be stored in the next tailings cell. The status of this next tailings accumulation area and the next steps (schedule) are discussed in the response to QC-26.

QC 2-26 The proponent must provide the status of its efforts to determine the additional accumulation area it plans to build. The proponent must provide a complete description and justification of the future tailings management site once the Expo pit and Expo tailings cells are filled. The proponent must indicate the results of the environmental, social, technical and economic characterizations performed as part of the impact study for tailings storage. The proponent must present the results of its identification of alternatives, selection criteria (technical, environmental, social, economic), project completion schedule (including stages in the authorization process), and consultations with Inuit communities.

The engineering firm AtkinsRéalis is currently in charge of Phase 1 for the design of the additional tailings' accumulation area (which would be the 4^{ième} tailings cell). This first phase, which is in fact a variants analysis, aims to:

- Compile and review existing data
- Defining the basis of design
- Identifying potential sites and technologies
- Developing concepts

The mandate began in March 2024, the final report, as well as a document that will serve as the basis for a presentation to communities and governments, is available at Appendix I.

The future tailings management infrastructure project was on the agenda of the Nunavik Nickel Agreement Committee meeting held on September 17 and was summarized in the response to QC 2-28.

The three variants selected, for the storage of 7.1 MT after study of nearly a dozen, are:

- Tailings pumped to Mesamax and Méquillon mining pits
- New tailings cell west of Camp Expo
- New tailings cell east of Camp Expo

These three variants were briefly presented to initiate a discussion on the desired mode of consultation. CRI indicated to the committee members that it wished to involve them at this stage of the variants study, in a context that would enable each variant to be further explained. The interest of committee members in being involved at this stage was not clearly expressed. The progress of the future tailings disposal area project will be presented at the annual village visits in spring 2025; CRI will reiterate its openness to community representatives to invite community residents and publicize the meeting, notably on local radio. CRI will also extend an invitation for a meeting of the NNC committee in the winter or spring of 2025 that will be more specifically dedicated to this project.

CRI will invite MELCCFP and MRNF to a presentation by the end of 2024 to present progress and gather any questions or comments.

As indicated in the response to QC-21, the need for the additional tailings' accumulation area is anticipated towards the end of pit filling, i.e. around 2030. Depending on site and technology selection, a pre-feasibility study will be conducted in 2025. The additional studies required in accordance with MELCCFP guides will be carried out in 2025 and 2026, with a view to submitting a request for amendment to the CA between late 2025 and early 2027, depending on the scope of the studies to be carried out, which will depend on the selection of the chosen variant and the results of consultations with the communities. All the information listed in QC 2-26 will be included in the request for amendment to the CA that will be submitted.

Finally, CRI reiterates that if the storage capacity of the Expo pit, as defined in the WSP design report included in Appendix F of the addendum submitted in June 2022 (WSP, 2022), i.e. reaching the 534.5 m level, corresponding

to a volume of 11,688,262 m^2, is reached before the next tailings accumulation area is authorized and constructed, **CRI will stop tailings production.**

QC 2-27 The proponent must detail the measures that will be put in place to limit oxidation of tailings during pit storage and mine restoration. Since the proponent believes that Phase 2 deposits may acidify more rapidly than other deposits, the proponent must provide details on the speed of pit capping.

Deposition takes place continuously in the pit, with the tailings gradually covering the previous layer. The tailings are therefore not exposed for long periods. At the end of filling, the cover should be put in place quickly (within 2 years). There are no technical contraindications to this. CRI must ensure effective monitoring of restoration activities to limit oxidation of tailings awaiting overlay.

11 Agreement with Inuit communities

QC 2-28 The proponent must provide the minutes of the 2nd meeting of the Phase 2a subcommittee scheduled for May 2023 or subsequent meetings and present the mitigation measures implemented or discussed to address the concerns expressed, if any.

The Phase 2a sub-committee meeting was held on May 25, 2023 by videoconference. No minutes were taken by the designated facilitator (Mr. Jean-Marc Séguin of Makivik Corporation). An e-mail communication from Mr. Séguin indicating that the meeting resulted in a better understanding of phase 2 (phase 2a and 2b) is available at Appendix J. The meeting agenda and presentation are also available in this appendix. Phase 2a and 2b projects were explained at the meeting, as well as the mitigation measures table of the ESIA addendum submitted in June 2022 (Table 7.36), for inclusion in the Nunavik Nickel Agreement (Appendix 7.1). As provided for in the Phase 2 subcommittee's terms of reference, this table may be enhanced in response to the subcommittee's recommendations or concerns and is considered a preliminary version of the future Appendix 7.1.

Mr. Séguin's e-mail refers to documents forwarded after the meeting: the table of mitigation measures (preliminary Appendix 7.1), the answers to the first series of questions from Phase 2a forwarded to the MELCCFP in May 2023, and the minutes of the visits made in 2023 to Kangiqsujuaq and Salluit. Mr. Séguin indicates that comments on these documents will be returned to CRI, if necessary. CRI did not receive any comments following this communication.

A meeting of the signatories was held on February 13, 2024; the minutes and presentation are available in Appendix J. Phase 2a projects were presented, as well as other projects currently being analyzed by the MELCCFP and the Inukshuk underground development project, for which the addendum to the ESIA is being prepared and will be submitted to the MELCCFP in early 2025. No concerns have been raised about these projects.

With the arrival of a new facilitator of the Phase 2 subcommittee, Ms. Siasie Kanarjuak, who replaces Mr. Séguin on the subcommittee and is also a member of the Nunavik Nickel Committee, it was agreed to hold a third subcommittee meeting in conjunction with the Nunavik Nickel Committee meeting scheduled to take place at the mine site in spring 2024. This meeting was postponed to the fall of 2024, due to stakeholder availability. On July 8, 2024, CRI contacted the sub-committee members to confirm that the meeting would be held at the mine site in early fall 2024; a confirmation of the sub-committee meeting could not be obtained.

It should be noted that the Phase 2a executive summary was mailed to the Inuit communities (representatives of Salluit, Kangiqsujuaq and Puvirnituq, as well as Makivik Corporation) in December 2022. No comments have been received to date. Phase 2a projects were also presented during village visits in 2023 and 2024, as detailed in the response to QC2-41. The presidents of the Salluit and Kangiqsujuaq landholding corporations, who are also

members of the Phase 2a subcommittee, attended these meetings. No concerns were expressed regarding Phase 2a projects. Various topics and concerns regarding NNiP's current activities were discussed, and a summary is presented in the response to QC 2-41. CRI recognizes that the comments, interests and concerns raised regarding current NNiP activities must be considered in the development of future NNiP activities, and the response to QC 2-41 shows that we are actively working on this.

The meeting of the Nunavik Nickel Committee (NNC Committee) was held at the CRI mining facilities on September 17, 2024, including a tour of the mining facilities as requested by the village representatives. Representatives from Kangiqsujuaq were unable to travel to the Expo site due to weather conditions. It should be noted that the invitation was sent to all community representatives to make the visit to the site accessible to a larger number of people than the members of the NNC committee.

The agenda, minutes and presentation of the meeting are available in Appendix J. Among the topics discussed, representatives were encouraged to contact CRI in the event of any observed impacts that had not been identified to date, or for explanations regarding the impact assessment of CRI's projects underway and in development. CRI also invited any environmental concerns to be shared, as well as suggestions for additional ways to share information or seek community feedback. The representatives did not express any concerns or suggestions; however, it was made clear that this can be done at any time, whether via a dedicated e-mail address on the CRI website (communitysupport@canadianroyalties.com) or the new Inuit Communication Officer, Mr. Jajie Alaku, who was introduced during the meeting.

Phase 2a projects were discussed again, with a view to encouraging the expression of concerns at different times and in different contexts. The mandate of the Phase 2 sub-committee and its consultation process, including discussion of impacts and mitigation measures with communities, was again explained. CRI mentioned that a third meeting of the sub-committee will be held to gather the analysis of the elements in the hands of the Inuit stakeholders. The two sub-committee members present at the NNC meeting (Ms Kanarjuak and Mr Lukasi Pilurtuut) indicated that they would get back to CRI regarding this third meeting. Mrs. Kanarjuak may be replaced by a new member of the Phase 2a sub-committee.

The meeting presentation was given to the representatives in paper and electronic format, enabling them to disseminate the information to other community members.

Community representatives dined with CRI management, including the President/Chief Operating Officer, General Manager of Operations and Senior Directors. A tour of the mining facilities took place in the afternoon, covering the following sites:

- Expo sector: Tailings cells 1 & 2, Expo pit (tailings cell no. 3) and Expo West mine
- Expo mine effluent discharge point
- Future site of the Inukshuk underground mining project
- Mine Méquillon UG and the underground vehicle fleet
- Ore processing plant, Mobile Maintenance and Safety & Emergency Measures department

A dinner was also organized to extend the exchanges between Inuit representatives, management and CRI employees.

A helicopter flight over the Expo site was carried out with Inuit representatives on September 18. The representatives seemed satisfied with these visits, both by land and by helicopter. CRI hopes to have responded in some tangible way to concerns expressed or potential. The Inuit representatives were able to observe, among other things:

- The visual appearance of the mine discharge and that of the receiving watercourse, which is a tributary of the Puvirnituq River, as well as that of other bodies of water in the vicinity of the facilities.
- Absence of unclean spills, good housekeeping and air quality
- Natural tundra between mine sites
- Potential workplaces for community residents

The next step for Phase 2a projects is a third meeting of the sub-committee, at which this response document will be presented and a new Appendix 7 adopted by the sub-committee. Table 7.36 presented in the addendum to the ESIA submitted in June 2022 is the starting point for this new appendix; mitigation measures may be added or enhanced based on the subcommittee's analysis of the projects and the feedback they have received from the communities. This new appendix will be included in the Agreement at the next meeting of the signatories in 2025.

It should be recalled that this community consultation mechanism was proposed by Makivik to CRI in 2018, i.e. the creation of a subcommittee of the Agreement, with a mandate to conduct a review of the addendum to the impact study for the Allammaq and Puimajuq projects, with proposals for mitigation measures integrated into a new appendix to the Agreement. This 2018 proposal is also available in Appendix J.

CRI undertakes not to begin any work on Phase 2a without incorporating a new Appendix 7 to the Agreement, even if ministerial authorizations have been delivered.

12 Impact of mining activities

12.1 Surface water

QC 2-29 The promoter has undertaken to monitor the EDOs and work towards compliance with them. To ensure consistency with its prior commitments to the project, the promoter must aim to comply with the EDOs, which are more stringent than Directive 019.

It is understood that CRI must aim to achieve the EDOs. Here are the average results obtained on the EDO parameters for 2023[12] .

Table 11: Comparison of EDOs with average final effluent values

Paramètres	OER Expo	MOY Expo	OER Msx/Mqn, Ivk	MOY Msx	MOY Meq	MOY Ivk
MES	14,4	5,1	14,4	5,2	3,6	7,3
m-Arsenic	0,032	0,00075	0,032	0,001	0,001	0,001
m-Cuivre	0,0016	0,020	0,0016	0,0154	0,0091	0,0032
m-Fer	1,7	0,203	1,7	1,0	0,4	1,7
m-Nickel	0,0088	0,349	0,0088	0,2852	0,3095	0,2678
m-Plomb*	0,00021	0,00037	0,00021	0,00037	0,00034	0,00025
m-Zinc	0,022	0,007	0,022	0,013	0,015	0,004
Azote ammoniacal total	2,5	3,1	2,5	0,1	8,5	3,2
Chlorures	303	164	303	104	160	70
m-Aluminium	0,11	0,0153	0,087	0,0125	0,0050	0,0710
m-Argent *	0,000003	0,000169	0,000003	0,000169	0,000003	0,000003
m-Baryum	0,050	0,026	0,050	0,018	0,031	0,021
m-Beryllium*	0,00000823	0,00034	0,00000823	0,0003417	0,0000100	0,0000100
m-Cadmium	0,0000621	0,00010	0,0000621	0,00016	0,0000766	0,0000438
m-Chrome	0,014	0,00098	0,014	0,001	0,000	0,001
m-Cobalt	0,13	0,0135	0,13	0,01	0,01	0,01
m-Manganese	0,34	0,021	0,34	0,06	0,05	0,48
m-Mercure*	1,30E-06	0,000016	1,30E-06	1,83E-05	2,0E-06	6,04E-06
m-Selenium	0,0066	0,0045	0,0066	0,0035	0,0069	0,0029
Nitrates	3,8	4,2	3,8	6,9	15,7	18,5
Nitrites	0,023	0,153	0,023	0,200	0,200	0,500
Sulfates	660	1003	660	257	395	130

There are two cases:

- Current treatment lines can remove some of these contaminants, but sometimes not enough. This is the case, for example, with nickel, copper and cadmium.
- For other contaminants, the treatment line is not designed to remove them. This is the case for ammoniacal nitrogen, selenium, nitrites/nitrates and sulfates.

[12] In the event of discrepancies, the values presented in the annual environmental monitoring report shall prevail. These tables are used to support the description of efforts to achieve EDOs and not to formally present the results of mine effluent monitoring.

Mitigation measures for total ammonia nitrogen and nitrates/nitrites are twofold. Firstly, since ammoniacal nitrogen and nitrates normally come from undetonated explosives tailings, CRI trains its workers in good practices to minimize this, and monitors mining operation teams in the field. The treated water is then adjusted to a pH that minimizes the presence of un-ionized ammoniacal nitrogen, the most toxic form of ammoniacal nitrogen.

CRI has recently put in place an EDO management plan to conscientiously address all EDO that do not meet targets. The plan has two aspects. On the one hand, there is a calendar of planned actions that will be updated biannually, presented at Appendix K. On the other hand, CRI will carry out an annual review of the results obtained from the effluents following the actions implemented, including a report on the actions that were planned to be carried out. Uncompleted activities, if any, will be justified and annual targets will be set, which will be translated into planned actions. An annual report will be produced and may be included in the annual environmental monitoring report sent to the Administrator. CRI is therefore committed to a continuous improvement process aimed at achieving compliance with the EDO and reporting on its results. A copy of the 2023 report can be found at Appendix K. It details the actions planned for 2024. The main points are:

- WTP -Expo: Testing a settling aid and optimizing Fuzzy filter washing
- All WTP[13]: Laboratory trials to test a full range of coagulants to assess whether some are more effective than the one currently used (ferric chloride).
- All WTPs: ASDR has been commissioned to review potential filtration technologies for our effluents in order to reduce metal content in the effluent.
- All WTPs: awarding of a mandate for a comprehensive study of EDOs, including a gap analysis, a site visit to optimize WTPs and proposals for treatment additions to target EDOs.

The treatment technologies to target all the EDOs with exceedances are different and therefore cannot all be deployed simultaneously, for reasons of technico-economic feasibility. With a view to targeting the EDOs for which the environmental gain would be greatest, CRI sought the advice of DÉEPIM in May 2024; DÉEPIM indicated that it was up to the proponent to determine the technological sequence based on impacts. Accordingly, CRI asked Aecom to draw up a summary of the EDO exceedances, and to relate it to the following data:

- Water quality monitoring of the watercourse receiving mine effluent (EMP #4), including comparison with MELCCFP aquatic life and chronic criteria
- Studies on fish and benthic communities (EMP monitoring #8 and #16)
- Monitoring metal content in fish flesh from the Puvirnituq River (EMP #9)

For each WTP, the EDOs to be prioritized have been highlighted. The potential impacts of NNiP mining effluents are also analyzed. The technical note is available at Appendix K. It is concluded that:

"*The effects of effluent (related to metals, ions and nutrients) on aquatic fauna are therefore not totally apparent from current data, despite the exceedance of EDOs. Impacts related to metal and nutrient enrichment are inevitable on benthic communities located immediately downstream of the effluent, but this enrichment would likely be local*."

We also draw the MELCCFP's attention to the fact that the deployment of water treatment technologies to target EDOs entails externalities and is not without environmental impact (e.g. diesel to power equipment, chemicals to regenerate resins, waste production, etc.), which may even, from a life-cycle analysis perspective, diminish or even cancel out the potential environmental gain of reducing discharges.

The content of Aecom's technical note will be used to support the choice of technological sequence for each WTP. As indicated earlier in the response, the annual monitoring report sent to the Administrator (monitoring #3) will report on the actions taken and results obtained to achieve the EDOs.

[13] All WTPs refer to the 4 authorized NNiP WTPs, i.e. WTP-Expo, WTP-Mesamax, WTP-Méquillon and WTP-Ivakkak.

QC 2-30 A change in water quality at the final effluent may result in higher exceedances of certain contaminants, thus increasing impacts on the receiving aquatic environment. In order to predict potential impacts, the proponent must compare expected contaminant concentrations in the final effluent from Méquillon with all applicable EDO parameters. If exceedances are anticipated, the proponent must provide mitigation measures or justify its inability to implement solutions.

The waste rock to be extracted from the Méquillon UG2 mine and deposited on the waste rock pile has similar characteristics to that already stored on the pile, as explained in the response to QC2-8. In addition, there are no plans to pump water out of the mine. Consequently, the Méquillon UG2 underground mine will not result in any change in the quality of the water to be treated, and the operation of Méquillon UG2 is not expected to affect the quality of the water in the final effluent. The concentrations expected in the final effluent from the Méquillon WTP are therefore like those obtained in 2023. These results were presented in full in the annual monitoring report submitted to the Administrator; the report is available in French only. Table 12 provides a summary. Exceedances of certain EDOs are anticipated (in red in the table); however, they are not due to the activities of the present request for amendment to the CA. CRI nevertheless plans to implement solutions, which were explained in the response to QC 2-29. The response also details the potential impacts of these exceedances and their limited scope.

It is also expected that ammonia-nitrogen concentrations will gradually decrease during underground mining, since the quantity of waste rock generated, and therefore of blasting residue, is lower than during open-pit mining at the Méquillon mine.

Table 12 Comparison of EDO with mean values at of the WTP-Méquillon effluent.

Paramètres	OER Msx/Mqn, Ivk	MOY Meq
MES	14,4	3,6
m-Arsenic	0,032	0,001
m-Cuivre	0,0016	0,0091
m-Fer	1,7	0,4
m-Nickel	0,0088	0,3095
m-Plomb*	0,00021	0,00034
m-Zinc	0,022	0,015
Azote ammoniacal total	2,5	8,5
Chlorures	303	160
m-Aluminium	0,005	0,0050
m-Argent *	0,000003	0,000003
m-Baryum	0,050	0,031
m-Beryllium*	0,00000823	0,0000100
m-Cadmium	0,0000621	0,0000766
m-Chrome	0,014	0,000
m-Cobalt	0,13	0,01
m-Manganese	0,34	0,05
m-Mercure*	1,30E-06	2,0E-06
m-Selenium	0,0066	0,0069
Nitrates	3,8	15,7
Nitrites	0,023	0,200
Sulfates	660	395

QC 2-31 The promoter points out that the Méquillon water balance is currently under construction. It cannot therefore verify whether the Méquillon WTP will be able to treat water from both sites, and whether it will be able to meet requirements. The promoter's response is incomplete. It must provide the Méquillon water balance and show that the WTP can treat water from the Méquillon and Nanaujaq sites. It must justify any modifications to the treatment chain and treatment operations.

As indicated in QC2-16, the Nunaujaq mine has been withdrawn from the mining schedule; it is therefore no longer necessary to demonstrate that the Méquillon WTP can treat wastewater from the Nunaujaq site. Water balance sheets for all Nunavik Nickel Project sites, including the Méquillon site, are available at Appendix L. The Méquillon UG1 mining operation is included in the water balance, which therefore also includes Méquillon UG2, for the reasons explained above.

12.2 Air quality

QC 2-32 The proponent must submit a dust management plan for its mine site.

The dust management plan is presented in Appendix M.

QC 2-33 Since the Expo site will be used until the end of the Nunavik Nickel mining site, the proponent must undertake to evaluate and justify the possibility of implementing the operational and permanent measures suggested by AECOM in its memorandum of July 8, 2021. These measures must also be evaluated for all current and planned mine sites. The proponent must justify whether these measures have been implemented. In addition, the proponent must present a schedule for restoring tailings piles to limit erosion, given that they are at maximum capacity.

The Table 13 shows the application status of the operational and permanent measures suggested by AECOM in its memo of July 8, 2021, for all current and planned mine sites. Most of the measures are in place at the Expo site and at all other mine sites. It should be noted that the dust management plan presented in QC2-32 presents an overall picture of dust-generating activities for current and planned mine sites, the measures in place and planned improvement measures.

Table 13: Application status of operational and permanent measures suggested by AECOM

1. Active measures These measures are only applicable during the summer months. They require constant adjustment (flow rate, orientation) of equipment to monitor operations at the storage area, which generates additional operating costs. They also require the installation of a water supply and distribution network.	
Regular application of dust suppressant or watering, particularly in dry periods, to the road and the rolling zone (active zone) from the ore storage area (loading zone, up to the concentrator);	This measure is in place - see the dust management plan presented in QC2-32.
Watering of ore loading areas;	This measure is in place - see the dust management plan presented in QC2-32.
Watering during unloading or watering the load before unloading.	A sprinkler system for the unloading area of the Expo site's main ore shed will be installed in summer 2024. CRI does not have the human or material resources to carry out watering during unloading or loading on temporary ore stockpiles at mine sites.
2. Operational measures for ore storage area These measures can only be implemented if they are in line with other operational constraints (product quality, production rate, available equipment, etc.).	
Reduce the height of ore piles; avoid piles with uneven terrain	This measure is already in place. Piles are low, averaging 8 m in height. Ore stockpiles at satellite sites are reduced.
Create a layout where the piles upwind protect those further downstream, ideally with a coarser aggregate;	This measure is in place. The piles have a similar grain size and there is no fine aggregate on the ore piles.
Minimize traffic and reduce traffic speed in the ore storage area.	This measure is in place; the average speed is 10 km/h.
3. Permanent measures such as screen walls	
Coarse aggregate, concrete or steel walls or mounds positioned upwind of prevailing winds. The height of the wall/mound must be at least equal to the height of the piles; its width (perpendicular to the wind) must be equal to the width of the storage area, and its distance from the pile must be equal to the height of the pile.	The construction of artificial screen walls would increase the impact on the natural environment by increasing the impacted area. CRI does not have the human or material resources to add these constructions at several mine sites.
Natural screens such as hills or wooded areas where possible.	There aren't any hills high enough in the vicinity of our ore pits to play this role.

The schedule for rehabilitating stockpiles is discussed and approved as part of the MRNF's review of reclamation plans, to which the MELCCFP may submit comments. Mine site reclamation schedules were also included in the response to QC40 of the first series of questions sent by the MELCCFP for Phase 2a.

Concerning the passage in QC 2-33 that mentions that the tailings ponds are at maximum capacity, the following clarifications should be made:

- As explained in the CA amendment request, it should be noted that tailings cells 1&2 at the Expo site are not at maximum capacity; the updated disposal schedule was presented in QC 2-24.
- Although the Expo pit has reached its currently authorized storage capacity, the present modification request is to allow it to be completely filled with tailings. Its maximum capacity has therefore not been reached.
- The Expo waste rock pile has reached its maximum capacity; however, it will continue to be used until at least the end of mining of the Expo South deposit, as a source of waste rock for underground backfill if required.

The Table 14 presents an example of a restoration schedule. Depending on the size of the waste rock pile and the type of work involved, between 1 and 4 years may be required. For example, for PAG waste rock piles, the remediation method calls for the application of 6 layers (screened esker material, geotextile, geomembrane, geotextile, screened esker and coarse esker), which requires time to produce the esker material itself, in addition to handling the application of the geomembrane. Dates may vary depending on, among other things:

- Mine site closure dates,
- The date of issuance of the amendment to the certificate of authorization for the *Mesamax underground mining* project*, pit extension, Expo 2b quarry, esker 2b and helipads*, since this quarry and esker are required for the restoration of certain pits, including Tailings Cells 1 and 2 at Expo.
- The date of issuance of this amendment request to the CA, which is a prerequisite for approval of the revised restoration plan submitted to the MRNF in January 2023.
- Dates of ministerial authorizations required for the work

Table 14: Restoration schedule for tailings and waste rock piles

Infrastructure		2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Tailings	Cells 1&2 Expo												
	Expo pit												
Waste rock piles	Expo[1]												
	Mesamax												
	Méquillon												
	Ivakkak												
	Puimajuq												

[1] The Expo waste rock pile will be considered as a potential source of material for the construction of the next tailings impoundment area, with a view to reclaiming this waste rock, as well as a source of waste rock for backfilling the underground mine of a future project (Inukshuk). It is therefore possible that reclamation of the waste rock pile will be delayed by one to three years. This will be discussed during the authorization process specific to these projects. Also, as indicated to the MRNF during the approval process for the revised restoration plan, a sterile waste rock pile will have to be available at the end of the NNiP's lifespan to accommodate, if necessary, the sedimented sludge at the bottom of the collection basins. It is therefore likely that the Expo waste rock pile will be covered in stages in order to meet the objective of progressive restoration in line with the realities described above.

Tailings and waste rock piles are rehabilitated as soon as possible after the end of operations at each site, to limit wind erosion.

QC 2-34 The proponent must describe the products used and provide Material Safety Data Sheets (MSDS) for polymers. It must specify whether environmental impacts are likely to result from the use of polymers and, if so, describe the mitigation measures in place.

The product's Material Safety Data Sheet (MSDS) is available in Appendix N. Ecological data in Section 12 indicate that the product is of low toxicity. If the product is diluted, water will be collected in the main water collection basin (MCP). This water is treated at the Expo water treatment unit (WTP) before discharge to the environment. Effluent toxicity is monitored via regulatory sampling. As indicated in section 2 of the SDS, in accordance with the Canada Gazette, Part II, Hazardous Products Regulations, this product is not classified as environmentally hazardous. The data given in section 12 are ecotoxicity data which led to this classification.

12.3 Caribou

QC 2-35 The transport road project has a major impact on disturbance of the Rivière-aux-Feuilles migratory caribou herd during migration periods. The increase in trucking, particularly between Ivakkak and Méquillon, needs to be better described by the proponent, targeting the periods of caribou movement.

In addition, the proponent must consider the impact of increased trucking on caribou, which goes beyond the temporary disturbance caused by noise or dust. The proponent must describe how increased transportation will result in a loss of functional habitat for caribou, as well as a change in migration patterns. The proponent must specify the number of trips planned between May and September of each year, to assess the real impact on migrating caribou. These impacts will have to be considered so that appropriate mitigation measures can be put in place, including, but not limited to, the reduction or suspension of ore haulage during periods when caribou are moving to their calving and wintering grounds, for all phases of operation of these deposits.

Impact of increased trucking on caribou

Table 15 in the response to QC1-34 indicates that the already authorized ore haulage planned for 2024 is 32 trucks per day (Méquillon OP, Méquillon UG1, Ivakkak OP).

In 2025, ore haulage between Ivakkak and Expo for Phase 2a is estimated at 33 trucks per day (Méquillon UG1 and Ivakkak UG; Nunaujaq is removed from Phase 2a). This level of traffic is expected to continue until Ivakkak UG ceases operations in 2027.

Evaluated in terms of maximum ore haulage with the 120-tonne bi-trains, haulage would increase from the current 1.6 trucks/h to 1.9 trucks/h during phase 2a. To our knowledge, no study to date has analyzed the effects of such fine variations in haulage rates, considering that other factors inevitably come into play, such as insect harassment, and reduce the possibility of determining the exact cause of a change in behavior (Severson et al. 2023). CRI does not believe that it is possible at this time to determine the impacts of the 0.3 truck/h increase. It is also more appropriate to focus energies initially on identifying proven measures to minimize traffic impacts.

Phase 2a will not result in any significant increase in transportation over that already authorized. It should therefore not result in any additional loss of functional habitat for the Rivière-aux-Feuilles migratory caribou herd.

Changes in caribou migration patterns

The impact of linear structures on caribou movements and migration corridors is project 2.1b of Caribou Ungava's 3rd research phase, currently underway. The results of this university research project, led by experts in the field, will provide an unbiased assessment of how increased transportation may result in the loss of functional habitat for caribou. As CRI is not an independent research center, we do not believe that our opinion would carry the same weight as the conclusion of a peer-reviewed academic study. Given that Phase 2a will not result in increased transportation or additional impacts on caribou migration, we believe it is preferable to await the conclusions of Caribou Ungava's 2.1b project.

Number of trips planned between May and September each year

We have shown that road haulage for phase 2a will be much the same as currently authorized. We can therefore assume that the monthly breakdown will also be similar. The summer months are busier, due in particular to activities surrounding road maintenance, water treatment at satellite mines, and associated environmental monitoring. Table 15 below shows the average daily number of trips from January to August 2024. It is based on dispatch and mine production records. All vehicles combined, the busiest day so far in 2024 is July 28, with an average of 14 vehicles per hour and a peak of 24 at 7:00 am.

We consider this actual counted data to represent the best possible estimate of the maximum number of trips (light vehicles, various maintenance vehicles, heavy ore haulage vehicles) for phase 2a, i.e. the years 2025 to 2027. The end of Ivakkak UG operations will result in a significant drop in traffic between Ivakkak and Méquillon.

Table 15: Number of monthly trips between Ivakkak and Expo in 2024

	Trips/month	Days/months	Average daily trips	Average hourly travel
January	6 312	31	203,6	8,5
February	6 325	28	225,9	9,4
March	7 075	31	228,2	9,5
April	7 500	30	250,0	10,4
May	8 388	31	270,6	11,3
June	8 506	30	283,5	11,8
July	8 796	31	283,7	11,8
August	3 598	14	257,0	10,7

Impacts and mitigation measures

Although Phase 2a will not result in any additional disturbance of the Rivière-aux-Feuilles migratory caribou herd during migration, CRI does not deny that its currently authorized activities have potential impacts on caribou. For this reason, we support research to find effective and proven mitigation measures to reduce these impacts.

To the best of our knowledge, the current state of research[14] indicates a consensus that roads and industrial road traffic have impacts on caribou, and these are increasingly detailed (migration patterns, habitat loss, behavioral and physical stress, etc.). While this research also seems to agree that reducing traffic would be beneficial for caribou and their migration, it is not clear on the method. Prichard et al (2022) showed that convoys reduced road avoidance,

[14] Plante, S., Dussault, C., Richard, J.H., Côté, S.D. (2018). Human disturbance effects and cumulative habitat loss in endangered migratory caribou. *Biological Conservation* 224, 129-143.

Prichard, A.K., Welch, J.H., Lawhead, B.E. (2022). The effects of traffic levels on the distribution and behaviour of calving caribou in an arctic oilfield. *Arctic*. 75(10):1-19.

Severson, J.P., Vosburgh, T.C., Johnson, H.E. (2023). Effects of vehicle traffic on space use and road crossings of caribou in the Arctic. *Ecological Applications* e2923. https://doi.org/10.1002/eap.2923

Smith, A., Johnson, C.J., Clark, K. (2023). Behavioral and physical stress responses of barren-ground caribou (*Rangifer tarandus groenlandicus*) to industrial roads. *Polar Biology* 46(10):1-15.

Smith, A., Johnson, C.J. (2023). Why didn't the caribou (*Rangifer tarandus groenlandicus*) cross the winter road? The effects of industrial traffic on the road-crossing decisions of caribou. *Biodiversity and Conservation* 32: 2943-2959.

but that this avoidance was only during calving. Caribou Ungava's research project 2.1a "Impact of linear structures on caribou behaviour" seeks to assess whether temporary road closures would be an appropriate method. CRI believes that this research project, whose field observations were successfully carried out in the summers of 2023 and 2024 on CRI's own roads, is the best method for objectively and rigorously determining effective mitigation measures. We would like to point out that this research project also evaluates several aspects of the caribou-road-traffic relationship, such as:

- Escape, relative to speed and type of vehicle (reduced feed time)
- Spatio-temporal distribution in relation to the road, and whether finer traffic variations have an effect on this distribution (e.g. 5 vehicles/h vs. 10 vehicles/h).
- The choice of crossing sites and the time between the passage of a vehicle and a crossing. Temporary road closures help to assess whether the absence of moving vehicles is conducive to crossings.
- Behaviour during the crossing in relation to the presence or absence of a vehicle
- The influence of road structure on crossings (grading, embankment heights and slopes, vegetation)

To our knowledge, no study to date has demonstrated that eliminating transport is the only effective method of adequately mitigating the impacts of traffic on caribou. However, the complete cessation of traffic during migration would have an immense negative impact on the very viability of the industry. It would also be impossible to achieve, given that the activities involved in monitoring mining infrastructures, water management, water treatment and water quality monitoring are mandatory and require the entire period between June and October to be carried out properly and in compliance with provincial and federal regulations.

CRI believes that it is necessary to work together to implement mitigation measures that are appropriate, effective, realistic and satisfactory to Inuit communities, governments, the mining industry and all stakeholders directly or indirectly interested in the protection and conservation of migratory caribou and their habitat. To this end, we have participated in a study commissioned by the Government of the Northwest Territories that seeks to identify and analyze best management practices for mitigating the effects of roads on barren-ground caribou. These guidelines will be made public by early 2025. CRI reiterates its firm interest in collaborating and implementing appropriate mitigation measures with the support of MELCCFP experts.

QC 2-36 The proponent must consider reducing the level of traffic, or even suspending it, between Ivakkak and Méquillon, during the period when the Rivière-aux-Feuilles migratory caribou herd is on the move, for all phases of the development of these deposits. The proponent must undertake to contact the wildlife sector of the MELCCFP (DGFa-10), as early as May, for each year the deposits are exploited on this stretch of road, to validate the location of the caribou and to plan the work according to the sensitive zones.

As mentioned in the response to QC2-35, Phase 2a will not result in a significant increase in transportation over that already authorized. It should therefore not result in any additional loss of functional habitat or additional disturbance impacts on the Rivière-aux-Feuille migratory caribou herd.

CRI believes that the results of Caribou Ungava's research project, combined with collaboration between CRI and MELCCFP wildlife experts, offer the best chance of objectively and rigorously determining effective traffic level management measures. Any other method would be an arbitrary choice whose effectiveness could not be demonstrated.

The suspension of operations and ore transport throughout the migration period would have a negative impact on the very viability of the mining industry, given the short summer season. Nevertheless, CRI is committed to interrupting traffic according to the decision tree described in its Fauna and Flora Protection Plan.

CRI undertakes to contact the wildlife sector of the MELCCFP (DGFa-10) as early as May, for each year that deposits are exploited on this section of road, to validate the location of the caribou and plan the work according to the sensitive areas.

12.4 Water withdrawal

QC 2-37 The proponent must estimate the total quantity of water withdrawn annually for Phase 2a and specify separately the quantity required for the manufacture of cement milk. The proponent must also present the quantity of water currently withdrawn annually from Bombardier Lake and the quantity authorized. The proponent must assess the impact of increased water withdrawal from Bombardier Lake, particularly on fish habitat. It must show that the lake has the capacity to support all withdrawals.

The maximum annual water withdrawal for Phase 2a is shown in Table 16 and specified by requirement, i.e. cement milk.

Table 16: Water withdrawal for phase 2a requirements

Requirement	Maximum water withdrawal (m^3 /year)	Comments
Ivakkak UG or Méquillon UG1 or UG2 cement milk (milk not to be used simultaneously at both mines in view of mine production schedule)	14 600	Daily requirement of 40 m^3/d. A reduction in demand of up to 50% is possible by reusing mine water, by using water from collection basins. The requirement will be of the order of 7,300 m^3 /year. It is highly unlikely that cement milk will be used during the first years of operation of the Méquillon UG1 mine; rather, it will be used after Ivakkak UG has been mined. It is reasonable to consider only one plant at a time.
Water for underground drilling (two of the three mines in simultaneous production)	1095	The requirement is 15 m^3 /day; 90% is currently recirculated, resulting in a requirement of 1.5 m^3 /day.
Sanitary facilities for satellite offices (two of the three mines are in simultaneous production)	2 086	Based on a weekly consumption of 20 m^3 /week
Production of drinking water for increased accommodation capacity at Camp Expo	21 550	Considering a maximum requirement of 175 m^3 /day for 700 workers (63,875 m^3 /year), minus the consumption of workers already present at the site for 2023 (42,325 m^3 /year)
TOTAL	**39 331**	

The other activities described for phase 2a, including related projects, do not result in additional water consumption. While water for cement slurry and drinking water production are additions to current consumption, water for drilling and satellite offices is rather a displacement of water consumption from already authorized projects, Expo South being an extension of Expo West and Méquillon UG2 that of Méquillon UG1. The Allammaq underground mine is scheduled to close in 2023. A table summarizing the total consumption of Phase 2a activities combined with that of other Nunavik Nickel project activities is presented later in the response.

The quantity of water currently withdrawn from Lac du Bombardier is reported in the annual environmental monitoring report submitted to the Administrator. It is also included in the annual declaration of water withdrawals made under the *Règlement sur la déclaration des prélèvements d'eau* and the *Règlement sur la redevance exigible pour l'utilisation de l'eau*. The Table 17 shows the quantity withdrawn over the last 5 years.

DRAEATNQ informed CRI of the need to obtain a ministerial authorization for water withdrawal from Bombardier Lake in 2020, even though the CA issued, and the ministerial authorization issued for the ore processing plant (Y/Ref.: 7610-10-01-70080-68) included water withdrawal from Bombardier Lake. The process was carried out as part of the ministerial authorization for open-pit mining at the Puimajuq site. CRI had included in this application a withdrawal of 2,000 m^3 /day (730,000 m^3 /year) from Bombardier Lake, based on 2020 and 2019 withdrawals. The ministerial authorization issued on January 12, 2021 (Y/Ref.: 7610-10-01-70080-82) authorizes a maximum withdrawal of 2,000 m^3 /day from Lac du Bombardier. It should be noted that the initial NNiP CA, issued on May 20, 2008, includes the construction of a drawbridge at the outlet of Lac du Bombardier, providing an estimated useful water reserve of 12.3 Mm^3 (12,300,000 m^3) as a source of fresh water for industrial and domestic needs.

Table 17: Quantity of water withdrawn from Lac du Bombardier

Year	Annual withdrawal (m^3)
2023	807 360
2022	876 763
2021	732 037
2020	338 292
2019	314 831
2018	764 629

The decrease in the quantity withdrawn in 2019 and 2020 is attributable to the installation of a nanofiltration unit on the mine water recirculation circuit, enabling greater use of tailings supernatant water instead of fresh water from Bombardier Lake for the ore concentration process. This unit had received approval from the DRAEATNQ via a technical report submitted under the *Règlement sur les attestations en milieu industriel*. The unit was returned to the south in 2021, as CRI planned to install another type of treatment, softening, to continue using the maximum possible amount of tailings supernatant water, but with a treatment generating less residual matter than nanofiltration. Also, the supernatant from the tailings cell water had been virtually exhausted by this time, reducing the availability of this replacement water. This led to an increase in the 2021 drawdown. CRI also encountered logistical difficulties in installing the water recirculation circuit from the Expo pit following the start of tailings deposition in February 2022, due to the narrow summer window for installation and delays in delivery of certain parts. In addition, the repeal of the *Règlement sur les attestations en milieu industriel* and the uncertainties surrounding the arrival of the *Règlement sur l'encadrement d'activités en fonction de leur impact* (REAFIE) led to a period of uncertainty as to the path to follow to obtain approval for the new softening treatment. The DRAEATNQ informed CRI that the softening treatment, although located on a water recirculation circuit and with no discharge to the environment, required ministerial authorization under section 22 of the LQE. This consequently delayed the implementation of the treatment and maintained the increase in the 2023 drawdown. The ministerial authorization for this softening treatment was issued on September 20, 2023 (Y/Ref.: 7610-10-01-70080-68). The unit is currently being installed and is scheduled to be operational by the end of 2024. It should be noted that mine water recirculation is already in place at the ore processing unit, both within the process itself and from tailings supernatant water. The addition of a treatment unit, however, will increase the proportion coming from tailings supernatant water.

NNiP's initial CA, issued in May 2008, authorized the construction of a drawbridge to provide an estimated 12.3 Mm3 (12,300,000 m^3) of fresh water supply; it is understood that this is the maximum amount that Bombardier Lake can support. It should also be noted that monitoring of the Lac du Bombardier fish population (monitoring #11) is included in NNiP's environmental monitoring program, and the results are reported in the annual report submitted to the Administrator. The monitoring, scheduled every 3 years, was carried out in 2018, 2021 and 2023. The findings indicate that fish reproduction in the lake has not been affected over the years by the water intake and tidal range, and that the number of fish caught has been maintained. The 2023 report also mentions that "several good-quality spawning grounds would still be functional for fish spawning, notably the confirmed lake trout spawning grounds F04 and F14". Water sampling to date therefore does not appear to have had any impact on fish.

Considering the planned start-up of the softening unit by the end of 2024, it would not be appropriate to add up the requirements of phase 2a with the withdrawals made in 2022 or 2023. These withdrawal volumes cannot be considered representative due to the circumstances explained above. Without Phase 2a, based on historical data, water withdrawal from Lac du Bombardier following installation of the softening unit would be in the order of

514,000 m^3 /year (411,000 m^3 for the ore processing unit[15] , 60,000 m^3 for satellite offices and exploration work, and 43,000 m^3 for drinking water, rounded up). As explained above, some of the water requirements for Phase 2a replace withdrawals already accounted for in previous annual withdrawals, since the 3 mining projects are extensions of already authorized projects. There would therefore be a certain, albeit small, overestimate when adding up the withdrawal forecast in Table 16(39,331 m^3) to the estimated 514,000 m^3 for NNiP without Phase 2a. The ministerial authorization of 730,000 m^3 /year would nevertheless be respected.

The Table 18 shows the water withdrawals for each of NNiP's requirements, including those for phase 2a. The scenario presented in the table takes into account the start-up of this softening unit; the overall scenario is conservative, considering that it presents requirements for constant 365 d/365 d operations (whereas blizzard days or other circumstances lead to downtime during the year). The table also considers 3 underground mines in operation, considering that Expo South could be operating simultaneously with Ivakkak UG and Méquillon UG1 in 2026, as well as drinking water consumption considering a constant maximum camp occupancy of 700 people, whereas the average occupancy will be more like 550 people. Drilling for open-pit mining does not require fresh water. Regarding the Ivakkak site waste rock crushing project, for which an application to amend the CA was filed in August 2023, it was indicated that the water requirement for dust suppression would be of the order of a few dozen m^3 for watering the piles on days when this is necessary, and 196 m^3 for watering the entire platform and access road. The annual amount is estimated at 2,005 m^3. As indicated in the submitted application, it is possible that this water requirement will be met by drawing water from a nearby lake to limit the transport distance, the capacity of which has been assessed by bathymetry. Ministerial authorizations will be required where applicable. This aspect will be detailed in the specific Ivakkak waste rock crushing application, and the MELCCFP will be able to comment on it in the specific application process. This possibility also applies to mineral exploration drilling. With a view to remaining cautious in assessing all possible withdrawals from Lac du Bombardier, the need for dust suppression water for crushing at the Ivakkak site and for exploration drilling are included in the table.

The table therefore shows a maximum average year in relation to the mining schedule, and a maximum year if the recirculating water treatment by softening performs below expectations. The table covers all years included in the mining schedule.

[15] Calculation with 0.25 m^3 /t of ore, 4500 t/day of ore, over 365 days/year

Table 18: Total projected water consumption for phase 2a

Requirement	Calculation details	Annual withdrawal (m)^3	Maximum annual withdrawal (m)^3
Ore processing	0.25 m^3 /t ore x 4,500 t/day x 365 d/year	410 625	547 200
Mineral exploration drilling	126 m^3 /day to feed 4 drills x 365 days/year	45 990	45 990
Underground mining boreholes[1]	1.5 m^3 /day per mine underground x 3 mines x 365 days/year	1 643	1 643
Sanitary facilities for mining satellite offices	20 m^3 /week x 3 satellite mines x 52 weeks/year	3 129	3 129
Cement slurry for backfill	20 m^3 /day x 1 mine (Ivakkak UG or Méquillon UG) x 365 days/year	7 300	14 600
Dust - Ivakkak crushing (August to December)[4]	20 m^3 /day for 15 days of strong winds on the piers and 196 m^3 per week for the platform in August and September	2 005	2 005
Dust abatement - other NNiP activities	20 m^3 /day x 92 days/year (summer period only)	1 840	1 840
Drinking water production at Deception Bay camp[2]	408 m^3 /month x 12 months/year	4 900	4 900
Drinking water production for the Expo camp[3]	250 L/person/day x 700 people x 365 days/year	63 875	63 875
Total (Authorized: 730,000)		**541 307**	**685 181**
Room for manoeuvre		188 693	44 819
Winter monthly average (9 months; October to June)		44,667 m^3/ month	58 149
Monthly summer average (3 months; July to September)		46,435 m /month^3	53 948
Maximum daily average (Authorized: 2,000)		1,525 m^3/ day	1,770 m /day^3

[1]It should be pointed out that although the mining schedule shows drilling at Méquillon UG1 and UG2 during the same year, this is done on an alternating basis. This is one underground mine, not two.

[2]Considering the low occupancy rate of the Deception Bay camp, and that this rate is not expected to change with Phase 2a, using historical camp data is more accurate than calculating L/pers/worker.

[3]Although it was discussed in QC2-3 that the maximum drinking water production capacity is 245 m^3 /d, the requirement remains 175 m^3/ day at maximum occupancy, based on actual data observed at Expo. This is the value to be used for planning the total withdrawal.

[4] As explained in the CA amendment application submitted for the waste rock crushing project, the crushing period is from August to December. The caribou calving period (June-July) is avoided. Crushing is not possible after December due to winter conditions. The use of water for dust suppression in November and December is little or impossible due to the onset of frost. Water use is therefore limited to August-September.

N.B.: The addendum to the impact study submitted for phase 2b (operation of the Delta deposit, 60 km from the Expo site), did not provide for withdrawal from Lac du Bombardier and is therefore not included in the table.

Mining water reuse efforts have been considered in the table above:

- 90% water recirculation for underground drilling thanks to a system of sumps in the galleries. This is already in place at CRI, reducing the need for water from 15 m^3 /day to 1.5 m^3 /day.
- 50% year-round reuse of water for cement milk production, reducing the requirement from 40 m^3 /day to 20 m^3 /day, mainly by using water from the water collection basin at the relevant mining site (Ivakkak or Méquillon).
- Use of water from mine water collection basins as dust suppressants for areas where contact water is redirected to the collection basin, such as Expo's main ore shed.
- Filling more than half of the net requirement of the ore treatment process (recirculation already included in the process itself) from tailings supernatant water, reducing the requirement from 0.53 m^3 /t ore to 0.25 m^3 /t.

The water withdrawal for Phase 2a, combined with all NNiP activities, for the peak mining year (3 underground mines) is estimated at 541,307 m^3 /year. The data used are maximum average data, which already allow for contingencies. The maximum annual withdrawal is estimated at 685 181 m^3

As mentioned at the beginning of this document, in the section presenting an update on the mining schedule, CRI wishes to present to the MELCCFP, from the outset, a water consumption table that takes into account projects whose CA amendment applications will be submitted later in 2024 and early 2025, with a view to presenting a global picture of the NNiP. The Table 19 will be presented again in these applications. If need be, the MELCCFP will be able to pass on these questions and comments specific to this table in the analysis process specific to these projects.

Table 19: Total projected water consumption with the addition of the Inukshuk mining project and increased ore processing rate

Requirement	Calculation details	Annual withdrawal (m)[3]	Maximum annual withdrawal (m)[3]
Ore processing	0.25 m^3 /t ore x 4,808 t/day x 365 d/year	438 730	584 653
Mineral exploration drilling	126 m^3 /day to feed 4 drills x 365 days/year	45 990	45 990
Underground mining boreholes[1]	1.5 m^3 /day per mine underground x 3 mines x 365 days/year	1 643	1 643
Sanitary facilities for mining satellite offices	20 m^3 /week x 3 satellite mines x 52 weeks/year	3 129	3 129
Cement slurry for backfill[1]	20 m^3 /day x 2 mines (Ivakkak UG, Méquillon UG or Inukshuk UG) x 365 days/year	14 600	14 600
Dust - Ivakkak crushing (August to December)[4]	20 m^3 /day for 15 days of strong winds on the piers and 196 m^3 per week for the platform in August and September	2 005	2 005
Dust abatement - - other NNiP activities	20 m^3 /day x 92 days/year (summer period only)	1 840	1 840
Production of drinking water for the Deception Bay camp[2]	408 m^3 /month x 12 months/year	4 900	4 900
Drinking water production for the Expo camp[3]	250 L/person/day x 700 people x 365 days/year	63 875	63 875
Total (Approved: 730,000 m)[3]		**576 711**	**722 634**
Room for manoeuvre		123 289	7 366
Winter monthly average (9 months; October to June)		47 609	61 365
Monthly summer average (3 months; July to September)		49 410	56 782
Maximum daily average (Authorized: 2,000)		1,622 m^3/ day	1,862 m /day[3]

[1] As indicated above, it is highly unlikely that cement milk will be used during the first years of operation of the Méquillon UG1 mine; rather, it would be used after Ivakkak UG is in operation. It is reasonable to consider one plant at a time for these two sites, and therefore to anticipate a two-mine operation with the addition of the Inukshuk site.

[2]The summer average is lower in the maximum scenario, because in the event of lower-than-expected performance of the recirculation circuit softening treatment, the WTP Expo sludge water remains available, as at present, for reuse in the ore concentration process.

N.B.: The addendum to the impact study submitted for phase 2b (operation of the Delta deposit, 60 km from the Expo site), did not foresee any withdrawals from Bombardier Lake and therefore need not be included in the table.

CRI recognizes that compliance with the ministerial authorization to withdraw water to meet all the needs listed above depends on the proper operation of the mine water reuse measures included in the table. A leeway of more than 180,000 m /year[3] for phase 2a in relation to the authorization issued, and of more than 120,000 m^3 /year by adding the Inukshuk mining project and increasing the treatment rate at the concentrator, remains available to compensate for occasional failures of these measures. In addition, to avoid overruns, CRI has put in place an investment plan to improve the reliability of the mine water recirculation circuit at the ore processing plant (pumping and piping system), to reduce the risk of prolonged failure of this recirculation, which would increase the need for fresh water and the risk of exceeding the ministerial authorization. It should be noted that the volume of water drawn from Lac du Bombardier is monitored by a continuous electromagnetic flowmeter, the accuracy of which is verified every 3 years by an external firm.

CRI intends to comply with the ministerial authorization issued, i.e. a maximum of 2,000 m^3/ per day for a total of 730,000 m^3 per year and is committed to reducing ore production at the concentrator to comply with this authorization.

CRI is also continuing its search for ways to reduce the use of fresh water. CRI will be aiming for 100% reuse of mine water for underground drilling during the summer, using water from mine water collection basins.

CRI will continue to evaluate other possibilities for reducing freshwater withdrawals, with a view to continuous improvement.

12.5 Wetlands and hydric environments

QC 2-38 The proponent must submit a summary table of the loss of wetlands and hydric environments (WHEs) caused by CA modifications not included in the current PEIIC, i.e. from the CA of June 30, 2022, to the present, including modifications currently being processed. The table must distinguish between losses of WHE for each of the CA modifications, by type of environment (wet or hydric) and for each of the sites concerned (Méquillon, Ivakkak, Nanaujaq, etc.).

The Table 20 presents a summary of the loss of wetlands and hydric environments caused by the modifications to the CA since June 30, 2022, including the latter. It should be noted that the power supply work at the Deception Bay camp was included in the ecological value report produced in 2023; the associated compensation amount is included in the budget allocated to PEIIC projects. A PEIIC presentation document was submitted to the MELCCFP in January 2024.

Table 20: Wetland and hydric encroachment related to projects authorized since June 2022 and Phase 2

Project with ministerial authorization (AM) issued	CA issue date / AM issue date and no.	Encroached wetlands and hydric areas (m2)	
		Wetland	Hydric
Power supply work at the Deception Bay camp and installation of fiber optics	2022-06-22 / 2022-09-08 (7610-10-01-70080-84)	203,84	5.4 (shore type)
Méquillon 3 esker operation	2008-05-20 2023-05-13 (7610-10-01-81024-00)	13 200	0
Project under analysis at MELCCFP	**Date amendment submitted to CA**	**Encroached wetlands and hydric areas (m)^2**	
		Wetland	**Hydric**
Underground mining of the Mesamax deposit, pit extension, Expo 2b quarry, esker 2b and helipads (15,900 m^2 for UG mining and 57,100 m^2 for pit extension; no wetland encroachment for quarry, esker and helipads)	2022-03-23	73 300[1]	0
Phase 2a: Ivakkak UG	2022-06-21	25 700	0
Phase 2a: Méquillon UG2		11 100	0
Phase 2a: Expo South		120 600[1]	0
Phase 2b (Delta)	2023-02-07	600 670	To be quantified according to the current water balance
Crushing waste rock at the Ivakkak site	2024-08-15	26 690	0
Project (other)	**Date of issue of CA n^0 3215-10-016**		
Deployment of two wind turbines	2023-08-15	467	0
Total		**871 931**	*Total to be determined according to Delta project*

[1]The encroachment areas for the Mesamax pit expansion and Expo waste rock pile were considered wetland by default, since they were carried out prior to a wetland and terrestrial inventory.

QC 2-39 The proponent must demonstrate that it has applied the avoid-minimize-compensate approach in selecting the location of its future Phase 2a infrastructures, prioritizing the avoidance of WHEs, then mitigating impacts and, as a last resort, compensating for the destruction of WHEs.

1. Prioritizing WHE avoidance when selecting infrastructure locations

Ivakkak UG site

The portal, emergency and ventilation exits, ventilators and electrical rooms were located in the open pit, thus avoiding any new encroachment into the natural environment. Most of the powder magazines were located on land. The infrastructure platform was located close to the pit to limit emissions from vehicle movements, and close to the site's existing access roads. The avoid - minimize approach was applied.

Site Méquillon UG2

This operation is an extension of a previously authorized underground operation, Méquillon UG1. Existing structures will be reused (access gate, temporary ore and waste rock piles, etc.). Two of the added platforms, the powder magazine and the ore shed extension, are on land. The ventilation stack and a third backfill platform are partially located on WHE. The location of the ventilation stack depended on the ventilation needs of the galleries; the third backfill platform had to be close to the site and to the authorized platform to facilitate operations and minimize transportation. There was no exclusively terrestrial environment in this area. The avoid - minimize approach was applied.

Expo South site

This operation is an extension of a previously authorized underground operation, Expo West. Existing structures will be reused (access portal, waste rock pile, etc.). Infrastructure additions include ventilation and emergency exits and access roads, as well as a temporary ore shed, all located exclusively on land. There are no new wetland encroachments. The avoid-minimize approach was applied.

The extension of the waste rock pile was considered a wetland by default, since it was carried out before any characterization of the terrestrial and wetland environments.

Nunaujaq site

The Nunaujaq site is withdrawn from the current CA modification request.

Modification of tailings management in the Expo pit

Filling the pit completely with tailings, rather than partially, will not result in additional encroachment on the natural environment. The tailings will be covered with an impervious cover, as described in the submitted addendum. The project does not involve any encroachment of WHE. The avoid - minimize approach has been applied.

Modification Increase in Expo camp capacity and replacement of sanitary wastewater treatment plant

These projects are planned within the existing, authorized footprint of the Expo complex. The project does not involve any WHE encroachment. The avoid - minimize approach has been applied.

Expansion of the LEMN landfill cell

Location selection is within the authorized LEMN footprint. There is no new WHE encroachment. The avoid - minimize approach has been applied.

2. Impact mitigation

The mitigation measures are those described in the addendum to the ESIA submitted in June 2022, i.e. VEG1 to VEG4.

The specific mitigation of the impacts of infrastructure construction on WHE consists in the rapid restoration of these areas following the end of operations, i.e. removal of the granular material, to allow vegetation growth to resume. As an example, CRI restored the access road to the Méquillon 1 esker following the end of esker mining by removing as much granular fill as possible (winter 2020), and a resumption of vegetation growth is currently being observed. As described in the addendum to the ESIA submitted in June 2022, however, it is recognized that the site will not regain exactly the same functions as it had in its original state. Therefore, the encroachment of all these areas will be compensated.

3. Compensation

The loss of wetlands will be compensated through the PEIIC (see also the response to QC-38). A document presenting the program, including the areas of wetlands that would be impacted by Phase 2a projects, was sent to the Administrator in January 2024. CRI is waiting to hear back from the MELCCFP on this subject.

QC 2-40 The promoter must confirm his commitment to submit to the Provincial Administrator, for information, an updated PEIIC including the new WHE losses, no later than the first application for ministerial authorization for phase 2a.

CRI confirms its commitment to submit to the Provincial Administrator, for information, an updated PEIIC including the new WHE losses, no later than the first application for ministerial authorization for Phase 2a. Furthermore, at the request of the MELCCFP, CRI sent a PEIIC presentation document to the Administrator in January 2024 and is awaiting comments.

13 Perception evaluation plan

QC 2-41 The promoter must specify whether the visits could be carried out in 2023, in the context of the NNiP Perception Assessment Plan, as he had planned, and what the result of the survey was. The promoter must detail the survey methodology. It must also specify the main topics addressed by the communities, as well as the concerns raised and what has been put in place as mitigation measures in response to these concerns.

The visits scheduled for 2023 have been carried out, as have those scheduled for 2024. Reports on the 6 visits are available at Appendix O. The 2023 *Power Point* presentation was forwarded to the Administrator in the 2023 annual environmental monitoring report (monitoring # 35); the 2024 presentation is available in the same appendix. The Table 21 shows the dates of the visits.

Table 21: Summary of 2023-2024 visits

Village	Dates	
Kangiqsujuaq	2023-04-11	2024-05-31
Salluit	2023-05-09	2024-05-15
Puvirnituq	2023-06-22	2024-04-03

2023 survey results

The survey distributed in 2023 was developed in conjunction with the Inuit liaison officer who was employed by CRI in 2022 (Mr. Andy Pirti). The survey is in English. At the time of the April and May 2023 visits, hard copies of the survey were given to representatives of Kangiqsujuaq and Salluit, for distribution in the community. CRI has not received any feedback from the communities.

The survey was also distributed at a presentation with Inuit employees (July 16, 2023) at the mine site, in collaboration with the Pinasuqatigiit program[16] . The presentation is also the one included in the 2023 annual report mentioned above; the Environment Department gathered feedback from participants on the environmental presentation itself, in the interests of continuous improvement. The completed forms show a good satisfaction rate.

14 NNiP perception surveys (*Community Survey Questionnaire*) have been completed and are available at Appendix O. The Table 22 summarizes the results. The figures represent the number of responses obtained for each item, for a total of 14 for each question. These results will be combined with those obtained in 2024 for the assessment of NNiP perceptions.

[16] The *Pinasuqatigiit Pool* is a retention and integration program developed at CRI for new Inuit employees to help them choose a career path that suits them.

Table 22: Summary of survey results distributed in 2023

Please indicate the extent to which you agree with each of the following statements by ticking the appropriate box.					
	Extremely	**Many**	**Neutral**	**Little**	**Null**
Environmental protection					
Are you concerned about environmental protection?	6	4	2	2	
How well informed are you about provincial and federal environmental legislation?		1	9	1	3
To what extent are you aware of monitoring to ensure water, soil and wildlife quality (regulatory obligations)?	1	3	4	6	
Do you think Canadian Royalties is giving you enough information about its environmental program?		4	9	1	
Do you believe in sustainable development, which includes improving the environmental and social practices of mining companies?	2	10	2		
Are you interested in waste management (composting, ecocenters, zero waste incentives, etc.)?	3	3	4	4	
	Extremely	**Many**	**Neutral**	**Little**	**Null**
Mining and site rehabilitation					
Are you worried about mining operations?	2	1	5	6	
Do you have any concerns about the rehabilitation of mining sites?	1	4	5	4	
Do you think there will be environmental restoration and assessment after the closure of major mines in the region?	2	7	4		1
Did you know that before operations begin, the company must have already planned to close the site once the mine has reached the end of its lifespan?	3	6	1	3	1

Table 22: Summary of survey results distributed in 2023 (continued)

	Extremely	Many	Neutral	Little	Null
The greatest concern about our territories					
How concerned are you about water quality?	4	8	1	1	
How concerned are you about soil quality?	3	7	2	2	
How concerned are you about the natural environment, wetlands and protected areas?	4	8	1	1	
How concerned are you about renewable energies (wind, water, solar)?	5	5	3	1	
How concerned are you about climate change and global warming?	6	4	2		2
How concerned are you about biodiversity (diversity, protection of vulnerable or endangered species, control of invasive species, etc.)?	6	7	1		
How concerned are you about air pollution?	6	4	4		
Do you think the government is doing enough to reduce global warming?			2	8	4

General						
What community do you live in?	Salluit Puvirnituq Kangiqsujuaq Ivujivik(s.o.)		Akalivik Quaqtaq Kangiqsualujjuaq Tasiujaq (2) Kuujjuaq (5)		Kuujuuarapik (2)Inukjuak, Kangirsuk (0) Umijaq (2)Montreal and Quebec (3)	
What is your age category?	Less than 18(0)	19-29 (7)	30-44 (7)	45-59(0)	60-74(0)	75 and over (0)
What is your educational background?	Elementary school (0)	High School (10)	Vocational training (1)	Technical school (0)	University (0)	I don't want to answer (3)
Do you have children?	Yes (5)		No (8)		I don't want to answer (1)	

Additional comments:

No additional comments on the 14 surveys

Topics addressed by the 2023-2024 communities - outside the survey

CRI ensures that meetings held as part of the Inuit Community Information Program are conducted in such a way as to capture the perceptions of NNiP, since this is a privileged opportunity to meet face-to-face with community representatives and residents. As indicated above, the reports are available in the appendix. The Table 23 summarizes the topics and concerns raised at all 2023-2024 meetings.

The NNiP Perception Assessment Plan and the Inuit Community Information Program are components of the EMP (monitoring #35 and #36). Certain elements will be dealt with in greater detail in the 2024 annual environmental monitoring report, as well as in the action monitoring. The development of mitigation measures specific to the results of the NNiP perception assessment will be carried out once the results have been analyzed. The next steps in this regard are detailed in the subsection following Table 23.

In addition, CRI resumed the distribution of a quarterly newsletter in 2024; a mailing for the first quarter of 2024 was carried out prior to the 2024 visits, allowing feedback for improvement, and this has been incorporated into some of the mitigation measures in the table. Two examples of the newsletter are available at Appendix O.

Table 23: Summary of topics and concerns raised on all 2023-2024 village visits

Themes	Mitigation measures in place and/or additional action proposed during discussions
Current CRI operations	
Water contamination by effluents and mining activities: More specifically, the community of Puvirnituq is concerned about water quality in the Puvirnituq River, the community of Kangiqsujuaq is concerned about the Pingualuit Park and Méquillon sectors, and the community of Salluit is concerned about the Deception Bay sector.	The environmental monitoring program in place documents potential water contamination in all these sectors (monitoring #4 and #7). Although monitoring results are communicated to communities and included in environmental presentations, their dissemination could be improved. For future quarterly newsletters, the Environment Department will include : ▪ Photos of environmental monitoring of surface water, particularly in the Puvirnituq River and Pingualuit Park areas, to illustrate the appearance of the water. ▪ Map(s) better defining watersheds to show that NNiP waters do not drain to the villages of Salluit and Kangiqsujuaq ▪ A brief presentation of the sanitary wastewater treatment system At the request of the Puvirnituq representatives, CRI booked a helicopter flight with Nunavik Rotors so that they could fly over the Puvirnituq River at the end of May 2024. After a series of reminders, the helicopter was no longer available when the representatives returned. Project will have to be rescheduled for May 2025. During the NNC committee meeting on September 17 and 18, a tour of the facilities was carried out, including a visit to the mine effluent discharge point and a helicopter flight over the CRI facilities. It was possible to observe the water quality of the stream receiving the Expo effluent, which is a tributary of the Puvirnituq River, and that of other nearby bodies of water.
Sailing in Deception Bay: The Salluit representatives reiterated the importance of the absence of navigation between mid-March and mid-June. They appreciate being notified of the presence of boats in the Bay, as is currently the case.	The absence of navigation during this period is included in the Nunavik Nickel Agreement. There was no traffic in Deception Bay during this period in 2024. CRI will continue to notify communities in the three villages of the presence in Deception Bay by e-mail. They were asked if any people should be added to this notice prior to the June mailing, and the mailing list has been updated accordingly. These notices are also included in the annual monitoring report (monitoring # 29).
Cleanliness of the shores of the Deception Bay Salluit representatives mentioned that waste was sometimes seen on the bay's shores, recognizing that it did not necessarily come from CRI's activities.	The employees of Logistec, who operate CRI's port facilities, carry out an annual clean-up operation. This routine will be kept and documented.

Table 23: Summary of topics and concerns raised on all 2023-2024 village visits (continued)

Themes	Mitigation measures in place and/or additional action proposed during discussions
Current CRI operations	
Mining exploration activities: The Kangiqsujuaq representatives wished to confirm that there was no exploration work beyond the boundary of the Pingualuit Park. The three communities have taken a positive view of the clean-up of the former Méquillon camp to date and would like to receive photos of the 2024 work.	The exploration map shown during the presentation was modified to illustrate the boundary of the park was sent to Kangiqsujuaq representatives. Photos of the Méquillon camp clean-up will be added to the 2024 quarterly newsletters.
Caribou: Salluit representatives stressed the importance of reducing speed on roads to avoid collisions with caribou, particularly during calving season.	CRI has drawn up a wildlife protection plan (PPFF), which has also been improved following comments from the MELCCFP as part of the amendment to the CA for the Mesamax project. The wildlife management procedure (PRO-NENV-121105b) has been updated to include a decision tree for drivers to slow down or stop the vehicle depending on the situation. For the 2024 migration period, CRI has begun reminding workers 2 times/shift, via the dispatcher on the radio, to adopt a speed that allows them to see the caribou clearly to avoid collisions. Awareness-raising workshops are also held as planned in the PPFF. Monitorings and actions carried out as part of the PPFF, including those relating to caribou, are included in the annual monitoring report sent to the MELCCFP and the communities (monitoring #18). CRI also supports research projects on caribou behavior and has added a mitigation measure to this effect in the addendum to the ESIA for Phase 2b (Delta), i.e. MTR18.
Mining restoration: Community representatives would like more information on how the CRI mine site will be restored.	Visual simulations of the restored sites have been produced and will be used to facilitate discussions within the restoration sub-committee. At the NNC committee meeting on September 17, it was indicated that the first meeting of the sub-committee would be held in February 2025; the presentation and date will be forwarded to them in advance so that they can relay it to people who might be interested in joining the sub-committee. The meeting will also be publicized in the quarterly newsletter.
External monitoring of CRI activities: The Puvirnituq representatives asked whether the governments inspected CRI's facilities and whether any monitoring of activities was carried out.	The list of visits made by all government bodies (federal, provincial and regional) since 2012 was sent to Puvirnituq representatives in July 2024. KRG was invited to join the MELCCFP inspection visit scheduled for early July 2024; a representative joined the visit held from July 5 to 8.
Understanding of CRI activities and general environmental monitoring (environmental monitoring, spill remediation, etc.).	A tour of the mining facilities was carried out in conjunction with the NNC committee; the invitation had been extended to all community representatives, not just members of the NNC . Further explanations regarding the remediation of spills were provided during the NCC committee meeting on September 17. Efforts are being made to include community representatives in environmental monitoring; it is generally easier to do this with Inuit employees already present at the mine site, given the difficult logistics of travelling from the villages. These efforts will continue, and more invitations will be extended.
Means of communication with CRI: Representatives would like to have easier communication with CRI and appreciate receiving information.	An e-mail address dedicated to communities, under the responsibility of CRI's corporate management, has been added to the CRI website, with a specific page encouraging comments, reports or requests. The quarterly newsletter sent to community representatives also invites them to use this e-mail address. The purpose of the quarterly newsletter is to provide information on spills (with maps) and environmental monitoring; additional information will be added in response to community suggestions. NNC members were invited to submit any suggestions for additions to the quarterly newsletter at the September 17 meeting.

Table 23: Summary of topics and concerns raised on all 2023-2024 village visits (continued)

Themes	Mitigation measures in place and/or additional action proposed during discussions
Current CRI operations	
Nunavik Nickel Agreement: The communities commented on the number of contracts with Inuit companies and the companies that could be added, as well as questions on other clauses of the Agreement.	*This subject is mentioned for information only, as it relates to the commercial aspect of the Agreement and not to environmental impacts.*
New mining projects	
Processing of new mining projects under the Nunavik Nickel Agreement	The processing of new mining projects is included in the Agreement. Representatives were invited to bring the subject to a meeting of the Nunavik Nickel Committee.
Archaeology: Salluit representatives stressed the importance of not disturbing archaeological sites.	CRI already has a mitigation measure in place to protect the site in the event of the discovery of remains of interest during construction (ARC1). The search for archaeological sites was also part of the addendum filed for Phase 2 projects. The archaeological site investigation for the future Inukshuk mining project will be completed in the summer of 2024. A lay summary will be prepared for the communities, who will also receive the full report.
Location and type of new mining projects: The Kangiqsujuaq representatives mentioned that they were not in favor of projects east of Puimajuq, nor of open pit projects, unless they were to be completely backfilled afterwards.	Phase 2a projects do not include open pits.

CRI representatives were made to feel very welcome by community representatives on all visits, who expressed thanks for the gesture of coming to meet them.

2024 survey progress and next steps

In 2024, CRI awarded a mandate to a specialized communications firm (Transfert Environnement et Société) to improve the survey distributed in 2023 and reach more of the territory's users. The survey is online until December 1ier 2024 and can be accessed via the CRI website or a QR code. The survey is also available in Inuktitut. Participants are eligible for a draw for gift certificates to the village cooperative. The means of promoting the survey, used to date, are:

- Promotional posters in public places in Puvirnituq, Salluit and Kangiqsujuaq (schools, medical clinics, town hall, landholding corporation, businesses, etc.), as well as announcement of the survey on village radio at the time of the spring 2024 visits.
- Presentation of the survey at meetings with community representatives
- Promotional posters given to a KRG representative for display in Kuujjuaq
- Promotional posters at the Expo complex
- Survey presentation on the home page of the CRI website
- Paper copies of the survey, with postage-paid return envelope, will be sent to representatives of Salluit and Puvirnituq; hard copies will be sent to representatives of Kangiqsujuaq in the next few days.

The survey and promotional poster are available at Appendix O. The survey has been translated into Inuktitut and will soon be available online as well. The next steps are:

- Evaluate the response rate in September 2024 and carry out a reminder to boost the participation rate. The method of monitoring is currently being evaluated (community radio, social media, mailings, etc.).
- Analysis of responses in early 2025 with Transfert Environnement and development of mitigation measures, if applicable, based on concerns raised.
- Planning of means complementary to the survey to complete the assessment of perceptions in 2025

We will also continue to send the quarterly newsletter to community representatives, Makivik Corporation, the Nunavik Nickel Committee and the quarterly KRG. The newsletter invites people to contact CRI to share any concerns, opinions, requests or questions, at a dedicated e-mail address. As mentioned above, two examples are available at Appendix O. This is a further means of assessing NNiP perceptions.

The results of the perception assessment plan, including its timetable, will be forwarded to the Administrator in the annual environmental monitoring report (monitoring #36).

14 Resilience to climate change

QC 2-42 The proponent must submit the climate change adaptation plan mentioned in response to question QC-40.

The climate change adaptation plan is available for information in Appendix O. It is based on the Mining Association of Canada's (MAC) Climate Change Adaptation Guide for the Mining Sector. The adaptation trajectories recommended in the report will be included in the operational planning of CRI.

15 Greenhouse gas emissions (GHG)

QC 2-43 The proponent must submit its new decarbonization strategy and an updated quantification of the project's GHG emissions reflecting the new mitigation measures proposed by the decarbonization strategy.

CRI's climate strategy and GHG mitigation plan are presented in Appendix Q. The description of the third project in the document, the Ivakkak energy storage facility, mentions the installation of an electrical cable linking the Méquillon and Ivakkak sites. This cable would be within the authorized right-of-way of the road and would therefore not cause any additional encroachment; it is illustrated on Map 3 in Appendix A.

It should be remembered that Phase 2a emissions will not add up directly with emissions reported to date. In fact, as presented in the operating schedule in Table 3-1 of the addendum submitted in June 2022, and in the updated schedule at the beginning of this document, some projects, such as Allammaq and Puimajuq, will have ceased operations by the time Phase 2a is deployed. As well, emissions from the Ivakkak UG mine will replace those from the Ivakkak OP mine, those from the Expo South mine will replace those from the Expo West mine, and those from the Méquillon UG2 mine will replace those from the Méquillon UG1 mine.

Quantification of GHG emissions from some of the measures in the GHG mitigation plan have been included in the mitigation plan presented in the appendix. Considering the interweaving of Phase 2a with already existing and authorized NNiP components, and the unavailability of all the data required to calculate emissions from all NNiP components in such isolation, an update of GHG emissions quantification reflecting these new mitigation measures is of limited relevance. The mitigation plan does, however, provide for continuous improvement mechanisms to limit GHG emissions. The monitoring of GHG emissions has been included in the EMP (monitoring # 21); the present results will include the monitoring of the implementation of the GHG mitigation plan measures. Monitoring # 21 is presented for information in Appendix P.

16 Summary of commitments, conditions and monitoring

QC 2-44 The proponent must provide all the information requested in question QC-56. The proponent must present a table that brings together all the commitments made for the Nunavik Nickel mining project. The promoter must present the size of the study area for each site in operation.

The size of the study area for each of the operating sites is shown in Table 24. The commitments made for the Nunavik Nickel project and their completion status are presented in Table 25. In all CA amendment applications, CRI has undertaken to comply with the mitigation measures set out in Appendix 7 of the Nunavik Nickel Agreement, which were established during the initial CA issuance process in 2008. This commitment is not systematically repeated in the table.

Table 24: Size of study area for each operating site

Date of issue or amendment to the CA	Date of issue AM	Sites in operation	Study area (ha)	Comment
2008-05-20	2011-07-20	Expo	260 000	2007 ESIA study area
		Mesamax		
	2019-10-15	Méquillon		
	2022-06-02	Ivakkak[1]	260 000 (87,63)[1]	
2011-01-25	2015-02-12	Allammaq	60 000	Area included in the 2007 study area; dealt with in greater detail as part of the CA amendment application.
2020-03-17	2021-01-06	Puimajuq	60 000	Ditto
2020-11-04	2022-02-08	Expo West	260 000	2007 ESIA study area
2022-04-14	2022-05-27	Méquillon UG1[2]	260,000 and (53.20)[1]	2007 ESIA study area

[1] The permit applications for the Ivakkak open-pit and Méquillon UG1 operations took into account data from the 2007 ESIA study area, and incorporated flora and fauna inventories carried out in 2021 on more localized study areas of 87.63 and 53.20 ha respectively.

Table 25: Summary of commitments for the Nunavik Nickel Project

Title of CA or modification	Issue date	No CAMOD	Commitments made	Status
Nunavik Nickel mining project	2008-05-20	0	Commitments have been translated into mitigation measures (Appendix 7 of the Nunavik Nickel Agreement) or CA conditions.	The status of compliance with CA conditions was provided in the answers to the first series of questions (QC-56).
Nunavik Nickel Project - Mining the Allammaq deposit and increasing concentrator processing capacity	2011-01-25	1	Finally, in order to accurately measure the real potential effects of mining activities on rare plants, a colony monitoring program (section 9.3.4) is planned, starting before mine construction and continuing until the end of operations. Should it be shown that these activities cause degradation of the colonies, CRI undertakes to implement mitigation or compensation measures to correct the situation. The proponent also undertakes to make monitoring results available to the Nunavik Nickel Committee and, if requested by an Inuit representative, to the Nunavik Research Centre in Kuujjuaq for validation.	The commitment was met; colony monitoring was included in the EMP (monitoring # 20) and was carried out as planned. The results were forwarded to the Administrator in the annual reports. No degradation of the colonies has been observed.
Exploitation of the Allammaq deposit and increase in concentrator processing capacity	2011-01-25	1	QC6: The Night Navigator could help detect beluga whale blow, since the thermal camera can detect whale blow better than the human eye, thanks to its extreme sensitivity to temperature differences as small as 0.035°C. However, this device is not yet used to detect whales in places other than Hawaii (Sylvie Quaeyhaegens, pers. comm. 2010). According to Mr. Chion and Ms. N. Ménard, the use of this system for commercial navigation may not be appropriate for belugas. These cetaceans can avoid large vessels with predictable and stable navigation trajectories (Chion, pers. comm., 2010). Based on the results of marine navigation monitoring over the first few years (GENIVAR, 2010), Canadian Royalties Inc. is committed to re-evaluating the effectiveness of this technology in preventing marine mammal collisions in the future.	See Appendix R

Table 25: Summary of Nunavik Nickel Project commitments (continued)

Title of CA or modification	Issue date	No CAMOD	Commitments made	Status
Exploitation of the Allammaq deposit and increase in concentrator processing capacity	2011-01-25	1	QC 10: Canadian Royalties Inc. is already committed to implementing the most effective treatment technology to minimize pollutant concentrations and loadings from its mine effluents. At this stage, it is not possible to comment on the feasibility of meeting all the proposed Environmental Discharge Objectives (EDOs). However, it appears that some EDOs may prove difficult to meet, including the concentration allocated for nickel. However, it is only during the operational phase that the performance of the ore and effluent treatment systems can be accurately measured, based on the number of parameters exceeding the EDOs, the frequency of exceedances and their magnitude. Canadian Royalties Inc. aims to achieve the best performance achievable with the technologies to be implemented. Should this performance not be achieved, or should several of the EDOs not be met on a regular basis, modifications will be made to the effluent treatment systems.	See the answer to QC2-29 in this document.
Quarry at Bombardier Lake	2011-02-16	2	No additional commitment	
Modification of condition statements	2011-06-06	3	No additional commitment	
Increased temporary capacity at Expo and Deception Bay	2011-11-28	4	No additional commitment	
Expo no. 2 quarry project	2012-01-27	5	No additional commitment	
Quarry No. 4 development project	2012-01-27	6	No additional commitment	
Second stage of modification of statements of conditions and approval of monitoring program	2012-06-22	7	No additional commitment	

Table 25: Summary of commitments for the Nunavik Nickel Project (continued)

Title of CA or modification	Issue date	No CAMOD	Commitments made	Status
Operation of a sand pit at km 34	2012-07-24	8	No additional commitment	
Relocation of the Méquillon satellite mine catch basin and discharge point	2012-11-06	9	No additional commitment	
Widening of the road section between Ivakkak and Allammaq	2013-01-15	10	No additional commitment	
Increased permanent capacity at Deception Bay	2013-03-05	11	No additional commitment	
Development of port infrastructures and management of dredged sediments at Deception Bay	2013-07-05	12	CRI is also committed to setting up a warning protocol for the passage of icebreakers in Deception Bay, to minimize risks to the safety of snowmobilers. This protocol will consider the state of the ice cover in Deception Bay and the time required for it to reform.	The commitment has been respected; a community warning protocol is included in the monitoring of marine navigation in the bay (monitoring # 29) and is carried out as planned each year. Communications are forwarded to the Administrator in the annual reports.
Modification of the environmental monitoring program - Sample the main sedimentation basin on a weekly basis during the discharge period.	2013-10-31	13	No additional commitment	
Port infrastructure development at Baie Déception	2014-07-11	14	During the operating period, whenever concentrate is stored in the warehouse, CRI undertakes to analyze surface water for nickel and copper concentrations. This sampling will be carried out at the rate of one sample per week, if water is present.	The commitment has been met; monitoring of surface water in the area of the concentrate warehouse was included in the EMP (monitoring # 7) and was carried out as planned. The results are reported to the Administrator in the annual reports.

Table 25: Summary of commitments for the Nunavik Nickel Project (continued)

Title of CA or modification	Issue date	No CAMOD	Commitments made	Status
Modification of the environmental monitoring program	2016-03-01	15	No additional commitment	
Exploitation of the Puimajuq deposit	2020-03-17	16	Finally, monitoring of special-status loggerhead dredge colonies (section 8.2) is underway to accurately measure the real potential effects of mining activities on these plants. D. cayouettei colonies will be added to this monitoring, and if it is shown that PEGP activities are causing degradation of drava colonies, CRI undertakes to implement mitigation or compensation measures to correct the situation. The proponent also undertakes to make monitoring results available to the Nunavik Nickel Committee and, if requested by an Inuit representative, to the Nunavik Research Centre in Kuujjuaq for validation.	The commitment has been fulfilled; the monitoring of D. cayouetti colonies is included in the EMP (monitoring # 20) and has been carried out as planned. The results were transmitted to the Administrator in the annual reports. No degradation of the colonies has been observed.
Road widening planned between Allammaq and Puimajuq	2020-08-03	17	No additional commitment	
Underground mining at the Expo West site	2020-11-04	18	No additional commitment	
Response to conditions 2 and 3 concerning the crossing of the road leading to the Puimajuq deposit	2020-12-16	19	CRI is committed to including the Puimajuq Crossing in its environmental monitoring program 12 (culvert stability and free movement of fish);	The commitment has been fulfilled; monitoring of the Puimajuq traverse has been included in monitoring 12 of the EMP and has been carried out as planned. The results are reported to the Administrator in the annual reports.

Table 25: Summary of commitments for the Nunavik Nickel Project (continued)

Title of CA or modification	Issue date	No CAMOD	Commitments made	Status
Loss of additional fish habitat at crossing Tr-5, minor relocation of Ivakkak road in crossing Tr-20 and addition of Ivakkak 3.5 quarry.	2021-04-29	20	CRI is committed to meeting its commitments with DFO to allow free passage of fish by installing a culvert for this second branch to the watercourse. Tr-5b will require a single 1.5 m diameter culvert. Monitoring of the additional Tr-5b crossing will be added to monitoring 12 (culvert stability and free fish passage) of the PNNi5 environmental monitoring program (Appendix 12).	Commitments with DFO have been met; authorization has been issued by DFO for the development of the TR-5b crossing. Monitoring of Tr5-b is included in EMP 12 and is being carried out as planned. Results are reported to the Administrator in the annual reports.
Tailings management at the Expo pit	2022-01-06	21	QC-14: CRI undertakes to develop a program for monitoring water quality and flows entering the pit to collect field data to reduce model and prediction uncertainties. At a minimum, this program will include monitoring of water levels in the pit, sampling of pit water during filling with clean water, and monitoring of flow rates and the quality of runoff from the pit walls. This monitoring program will be submitted to the Administrator by December 31, 2021. CRI undertakes to develop a water quality monitoring program, and to update and transmit to the Administrator every three years the model using data obtained during field monitoring. In the event that the quality of the pit fill water is worse than expected, for example, higher concentrations of nickel or copper, CRI has undertaken, in the responses to QC-7 and QC-8, to maintain the water treatment facilities in place and to treat the water until it is of adequate quality for discharge into the environment, as well as other alternatives including bulk water treatment (for example, for pH adjustment).	The water level in the pit is monitored by surveying several times during the summer. The management of tailings in the pit has been modified and is included in the current CA amendment application. This change in management (watertight covering of tailings and absence of pit lake) will render the present commitment inapplicable after the CA amendment.

Table 25: Summary of commitments for the Nunavik Nickel Project (continued)

Title of CA or modification	Issue date	No CAMOD	Commitments made	Status
Tailings management at the Expo pit (continued)			QC7: Golder expects pit water quality to meet the criteria of Directive 019. Should it fail to meet these criteria, CRI undertakes to maintain the water level in the pit below 535.4 m by pumping out the excess water and treating it at the WTP. QC-8: CRI undertakes to maintain the water treatment facilities in place and to treat the water until it is of adequate quality for discharge into the environment.	
Tailings management at the Expo pit	2022-01-06	21	QC-11: CRI undertakes to install thermistors at depth adjacent to the Expo pit to monitor long-term changes in soil temperature. A thermistor will be installed in the access to the eastern part of the pit prior to the start of tailings deposition to monitor thermal changes to a depth equivalent to that of the pit. Data from this thermistor (see below for location) will be collected annually and compared with thermal model results. If deviations from thermal model results are noted, additional thermistors will be installed.	The commitment has been fulfilled. A thermistor has been installed and the data is being compared with the results of the thermal models. The monitoring was included in the tailings facility monitoring (monitoring #27) and the results will be included in the annual monitoring report sent to the Administrator.
Tailings management at the Expo pit	2022-01-06	21	QC-16: CRI undertakes to submit a revised conceptual tailings report for the Expo pit as part of the NNiP Phase 2 addenda.	The commitment has been met; a revised conceptual report has been submitted as part of the phase 2a addendum.
Underground mining of the Méquillon UG1 deposit and addition of mining infrastructure at the Ivakkak site	2022-04-14	22	No additional commitment	

Table 25: Summary of Nunavik Nickel Project commitments (continued)

Title of CA or modification	Issue date	No CAMOD	Commitments made	Status
Underground mining of the Méquillon UG1 deposit and addition of mining infrastructure at the Ivakkak site	2022-04-14	22	Ivk component: QC-3: CRI undertakes to carry out a geochemical characterization study on the overburden of the pit and main collection basin when it is possible to sample it. Pending the results, it is anticipated that all overburden will be managed as potentially acid-generating and sent to the waste rock pile north of the pit, to which acidification control measures will be applied. However, if the results of the forthcoming geochemical study demonstrate that a significant portion or all of the overburden is non-acid-generating, this material may be stockpiled on the NGA waste rock pile. In this way, it will not be subject to acid drainage protection measures and could be set aside for use in site remediation.	The commitment has been fulfilled; the overburden characterization has been carried out; the report has been sent to the Administrator. The overburden has been managed in accordance with the commitment.
Underground mining of the Méquillon UG1 deposit and addition of mining infrastructure at the Ivakkak site	2022-04-14	22	Ivk QC-9 component: A water treatment plant (WTP) will be installed on the Ivakkak mine site. CRI undertakes to comply with the WTP effluent discharge requirements during all phases of the project, including the operation and post-operation phases. CRI undertakes to keep the WTP operational for the required duration.	The WTP was installed and included in the ministerial authorization issued for the Ivakkak site. Monitoring of mining effluent has been included in the EMP (monitoring #3), as has monitoring of the receiving watercourse (monitoring #4); the results are included in the annual report submitted to the Administrator.
Underground mining of the Méquillon UG1 deposit and addition of mining infrastructure at the Ivakkak site	2022-04-14	22	Mqn UG1 QC-11: CRI undertakes to file the rehabilitation and restoration plan required under section 232.6 of the Mining Act to include the Méquillon UG1 deposit.	The Méquillon UG1 and UG2 projects were included in a revision of the restoration plan filed on February 15, 2022, and approved on November 11, 2022.
Power supply work at the Deception Bay camp and installation of fiber optics	2022-06-30	23	CRI undertakes to comply with all NNiP mitigation measures. [Several mitigation measures are also presented in the characterization report in relation to the targeted impacts (Appendix 3).	The work has not yet been carried out; CRI will respect the commitments, including the mitigation measures presented in Appendix 3 mentioned in the commitment. This includes not carrying out work during the caribou calving period and during periods of frost.

Table 25: Summary of commitments for the Nunavik Nickel Project (continued)

Title of CA or modification	Issue date	No CAMOD	Commitments made	Status
Power supply work at the Deception Bay camp and installation of fiber optics	2022-06-30	23	Furthermore, as described in the letter of agreement (Appendix 6), CRI undertakes to respect the conditions set by the Mayor of Salluit. The commitments in this letter are: 1. The power line will not be exposed to wildlife such as caribou, foxes, etc. along its entire length, i.e., caribou will not be able to get caught in the line and foxes will not be able to eat the line sheath. 2. The line will not introduce any new barriers to access to the Deception Bay Lake systems, particularly Lac Duquet for the people of Salluit. 3. No damage will occur to the environment during installation.	The work has not yet been completed; CRI will meet its commitments
Power supply work at the Deception Bay camp and installation of fiber optics	2022-06-30		QC1: Ground monitoring of each of the structures will be carried out to validate whether debris can accumulate at any point after the spring melt period. It is therefore confirmed that the CRI team will carry out a ground inspection to monitor the stability of the structures and detect any environmental problems.	The work has not yet been completed; CRI will meet its commitments

II - Comments

17 General comments

QC 2-45 The proponent must add to the maps submitted in December 2023 the boundaries of authorized infrastructures currently in place and in demand, to provide a reference for both the proponent and the MELCCFP. These maps must be updated in the annual monitoring report.

Maps of mining sites in operation are presented in Appendix A (Maps 4 to 7). This comment has been considered. The LEMN map was presented in the response to QC2-7. It should be noted that no limit was set for each of the LEMN elements in the 2008 authorization process; it is not possible to provide further details on this map in relation to authorized limits.

QC 2-46 The promoter must take care to validate the documents cited as well as those added as appendices. In fact, several errors were observed between the report and the appendices.

The concordance between the appendices and the QCs is shown in Table 26 to limit the risk of errors.

Table 26: Concordance of appendices with questions in this document

No QC	No Appendix	Title and content
-	A	Maps to support answers and up-to-date map with satellite photography
2-1	B	Monitoring #4 - watercourse receiving mine effluents - of the Environmental Monitoring Program
2-2	C	Further information on sanitary wastewater treatment ▪ Occupancy rate ▪ CIMA report ▪ Flow diagram
2-3& 2-4	-	-
2-5	D	Procedures for managing residual materials and hazardous residual materials
2-6& 2-7	-	-
2-8	E	Geochemical characterization: ▪ Static and kinetic tests at Expo South ▪ NNiP kinetic tests
2-9 & 2-10	-	-
2-11	F	Hydrogeological study at the Méquillon site
2-12 & 2-13	-	
2-14	G	Stability analysis of the Expo waste rock dump
2-15		-
2-16	A	Maps to support answers and up-to-date map with satellite photography
2-17, 2-18		
2-19	A	Maps to support answers and up-to-date map with satellite photography
2-20 &2-21	-	-
2-22	H	Detailed deposition plan for the finalization of the Expo tailings facility operation
2-23 à 2-25		
2-26	I	Documents relating to the variant analysis for the next tailings accumulation area: ▪ Variant analysis report ▪ Summary presentation of variant analysis

Table 26: Concordance of appendices with questions in this document (continued)

No QC	No Appendix	Title and content
2-28	J	Documents related to the Phase 2 subcommittee meeting ▪ E-mail from Jean-Marc Séguin ▪ Agenda ▪ Power Point presentation Documents relating to the Signatories' meeting - February 13, 2024 ▪ Agenda ▪ Presentation ▪ Minutes Documents related to the Nunavik Nickel Committee meeting - September 17, 2024 ▪ Agenda ▪ Presentation ▪ Minutes
2-29	K	EDO documents ▪ Calendar of planned actions ▪ 2023 review and 2024 action plan ▪ Aecom technical note on the potential impacts of mining effluents
2-30	-	-
2-31	L	Mine site water balance
2-32	M	Dust management plan
2-33	-	
2-34	N	Safety data sheet for the polymer used in the tailings facility
2-35 to 2- 40	-	-
2-41	O	Documents relating to the perception assessment plan: ▪ Report on the 6 visits in 2023-2024 ▪ *Power Point* presentation of the 2024 tours ▪ 2023 survey results ▪ Poll of 2024 ▪ Survey promotional poster ▪ Examples of quarterly newsletters
2-42	P	Climate change adaptation plan
2-43	Q	Documents related to decarbonation: ▪ Climate strategy ▪ GHG mitigation plan ▪ Monitoring # 21 - GHG emissions monitoring - Environmental Monitoring Program
2-44	R	Updated assessment of Night Navigator technology effectiveness
2-45	A	Maps to support answers and up-to-date map with satellite photography

CONCLUSION

It should be noted that this request for a modification to the CA concerns joint modifications to already authorized projects, without major infrastructure additions or expansions, and optimizing existing infrastructures:

- Exploitation of the extension of two underground mines already authorized (Expo South / Méquillon UG2)
- Underground mining of a deposit already authorized for open-pit mining (Ivakkak)
- Optimization of the remaining space in an authorized tailings cell (Expo pit) so that it can be filled to capacity, thus creating a watertight cover rather than a pit lake.
- Addition of a landfill cell in an already authorized LEMN, for which "several cells" were already planned in the CA.
- Upgrade of sanitary wastewater treatment system, which will improve effluent quality

The assessment of impacts submitted in the June 2022 addendum and in the responses document sent in May 2023 indicates a minor residual impact significance, after application of mitigation measures, for almost all sources of impact on the components of the physical, biological and human environments. Extending the life of NNiP will also extend community benefits, including those provided for in the Nunavik Nickel Agreement.

Appendix A
Maps to support answers and map with up-to-date satellite photography

Appendix B
Monitoring #4 - watercourse receiving mine effluents - of the Environmental Monitoring Program

Appendix C
Additional information on sanitary wastewater treatment

- Occupancy rate
- CIMA report
- Flow diagram

Appendix D
Procedures for managing residual materials and hazardous residual materials

Appendix E
Geochemical characterization

- Static and kinetic tests at Expo South
- NNiP kinetic tests

Appendix F
Hydrogeological study at the Méquillon site

Appendix G
Stability analysis of the Expo waste rock dump

Appendix H
Detailed deposition plan for the finalization of the Expo tailings facility operation

Appendix I
Documents relating to the Phase 2 Subcommittee meeting

- E-mail from Jean-Marc Séguin
- Agenda
- Power Point presentation

Appendix J
Documents relating to meetings

Documents related to the Phase 2 subcommittee meeting

- E-mail from Jean-Marc Séguin
- Agenda
- Power Point presentation

Documents relating to the Signatories' meeting - February 13, 2024

- Agenda
- Presentation
- Minutes

Documents related to the Nunavik Nickel Committee meeting - September 17, 2024

- Agenda
- Presentation
- Minutes

Appendix K
EDO documents

- Calendar of planned actions
- 2023 review and 2024 action plan
- Aecom technical note on the potential impacts of mining effluents

Appendix L
Mine site water balance

Appendix M
Dust management plan

Appendix N
Safety data sheet for the polymer used in the tailings facility

Appendix O
Documents relating to the perception assessment plan

- Report on the 6 visits in 2023-2024
- Power Point presentation of the 2024 tours
- 2023 survey results
- 2024 poll
- Survey promotional poster
- Examples of quarterly newsletters

Appendix P
Climate change adaptation plan

Appendix Q
Documents related to decarbonation

- Climate strategy
- GHG mitigation plan
- Monitoring # 21 - GHG emissions monitoring - Environmental Monitoring Program

Appendix R
Updated assessment of Night Navigator technology effectiveness