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PATRIOT BATTERY METALS INC.

SHAAKICHIUWAANAAN MINING PROJECT

INITIAL PROJECT DESCRIPTION

Eeyou Istchee James Bay, Nord-du-Québec, Québec

January 2025

TSX: PMET - ASX: PMT - OTCQX: PMETF

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[1] The appendices are presented in separate files.

1. FOREWORD

On October 5, 2023, Patriot Battery Metals Inc. ("Patriot") created a wholly owned Québec subsidiary, Innova Lithium Inc ("Innova"). Innova is the registered claim owner of the Shaakichiuwaanaan (formerly Corvette) Project, Patriot's flagship property, located in the Eeyou Istchee James Bay region of Québec, Canada. This filing is made by Patriot as owner of Innova.

2. GENERAL INFORMATION

2.1. Project name, sector, and location

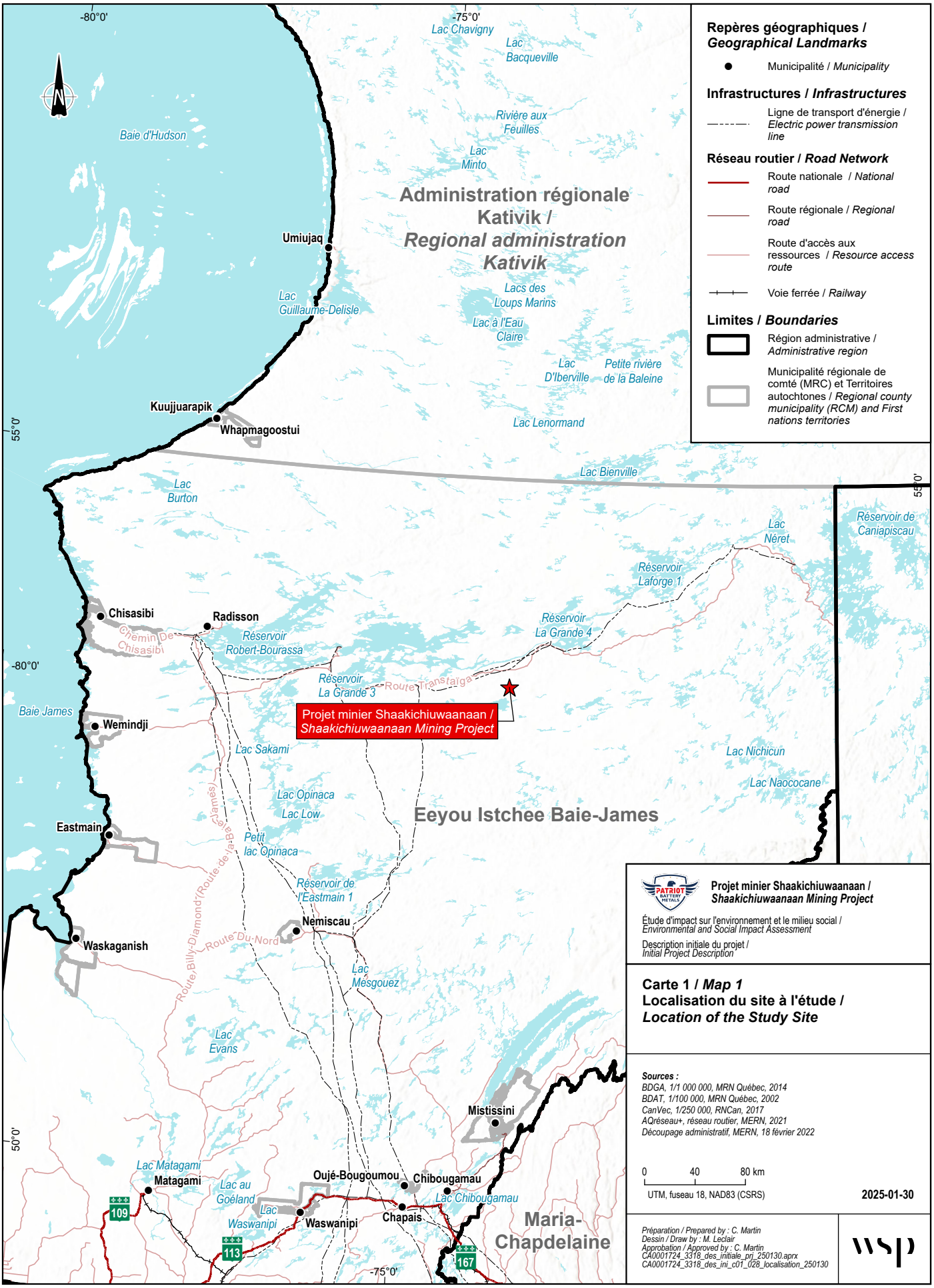
Project name	Shaakichiuwaanaan mining project (the “Project”)
Type / Sector	Mining and minerals – Lithium
Projected location	Nord-du-Québec Territory of the Eeyou Istchee James Bay Regional Government

The location proposed for the Project is shown on Map 1 hereafter.

2.2. Information on the promoter

Developer	Patriot Battery Metals Inc. (" Patriot ")
Street address	1801 McGill College Avenue, Suite 900, Montréal (Québec) H3A 1Z4
Principal representative	Cathryn Moffett Director of Environment
Contact	cmoffett@patriotbatterymetals.com 438-334-4968
Website	www.patriotbatterymetals.com

Map 1: Location of the study site



Projet minier Shaakichiuwaanaan / *Shaakichiuwaanaan Mining Project*

Étude d'impact sur l'environnement et le milieu social / *Environmental and Social Impact Assessment*

Description initiale du projet / *Initial Project Description*

Carte 1 / *Map 1*
Localisation du site à l'étude / *Location of the Study Site*

Sources :
BDGA, 1/1 000 000, MRN Québec, 2014
BDAT, 1/100 000, MRN Québec, 2002
CanVec, 1/250 000, RNCan, 2017
AQréseau+, réseau routier, MERN, 2021
Découpage administratif, MERN, 18 février 2022

0 40 80 km
UTM, fuseau 18, NAD83 (CSRS)

2025-01-30

Préparation / Prepared by : C. Martin
Dessin / Draw by : M. Leclair
Approbation / Approved by : C. Martin
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Aucune analyse foncière n'a été effectuée par un arpenteur-géomètre.

3. SUMMARY OF ENGAGEMENT WITH AUTHORITIES AND OTHER PARTIES

This section presents the identified Project stakeholders, Patriot's engagement approach, a summary of communication activities undertaken to date, and an overview of the future engagement plan for the environmental and social impact assessment (ESIA) process. This section also presents a summary of issues and key concerns expressed throughout communications to date and outlines Patriot's approach to address these issues.

3.1. Identified stakeholders

An initial stakeholder list was developed based on publicly available information which focuses on stakeholders in the Eeyou Istchee James Bay Territory. Communications have taken place with representatives of the federal, provincial, and municipal levels of government. The non-Indigenous stakeholders identified as part of the initial consultation activities are listed in Table 1 below.

Table 1: Identified non-Indigenous stakeholders list

Federal Government	Canadian Impact Assessment Agency Department of Fisheries and Oceans Transport Canada Health Canada Natural Resources Canada
Provincial Government	Ministère des Ressources naturelles et des Forêts Ministère de l'Économie, de l'Innovation et de l'Énergie Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs Environmental and Social Impact Evaluation Committee and Environmental and Social Impact Review Committee (COMEV/COMEX) Hydro-Québec Société du Plan Nord
Municipal Government	Eeyou Istchee James Bay Regional Government Locality of Radisson City of Matagami
Local Economic Organizations	Centre d'entrepreneurship nordique de Matagami Centre d'études collégiales de Chibougamau Service aux entreprises et aux collectivités (SEC)
Citizen and Community Organizations	Sûreté du Québec Carrefour jeunesse-emploi de la Jamésie CLSC de Radisson
Tourism and Sport	Camping Radisson Mirage Aventure (outfitter) Owners of vacation leases and basic shelters Club de motoneige Radisson Tourisme de la Baie-James

3.2. Engagement approach

Patriot's overall engagement approach is guided by the UL 2723 ECOLOGO® Certification for Mineral Exploration Companies guidelines. Patriot became a certified mineral exploration company in September 2024. This certification includes a formal audit of exploration companies and their service providers to ensure the application of best social, environmental, and economic practices.

Drawing on the UL 2723 ECOLOGO® guidelines and industry best practice, Patriot's consultation and engagement program aims to meet the following objectives:

- promote transparent dialogue and proactive, effective communication between Patriot, the host communities, and Project stakeholders;
- increase the dissemination of information on the Project and ensure accountability for associated activities;
- gather information on the land use, culture, and traditions of local and Indigenous communities affected by the Project;
- identify the concerns of stakeholders, as well as the potential challenges associated with carrying out the Project;
- address the concerns expressed, correct misperceptions, if necessary, and make the necessary commitments to respond to the questions, comments, and issues raised with regard to the Project;
- develop a lasting relationship of trust with the Project stakeholders.

Through its engagement approach, Patriot aims to offer local communities the opportunity to participate proactively in the planning and design of the Project.

Patriot confirms its commitment to placing social acceptability, citizen participation, and stakeholder interests at the heart of the planning and design of the Project and the assessment of its impacts. The company's commitment is centred on four priorities:

- work with stakeholders, to reduce impacts at source, prevent them, and avoid them where possible;
- maximize the positive spin-offs and benefits for the parties involved in the Project;
- co-define, with the community, the conditions to be put in place to ensure that the Project integrates harmoniously into the local environment;
- address in greater depth the issues of concern or interest to stakeholders in a spirit of collaboration, and take them into account in the development of the Project.

3.3. Engagement tools

The various means of communication that have been used since 2023 to establish and maintain dialogue with the Project's stakeholders are summarized in Table 2 below.

Table 2: Communication tools

Communication tool	Information included	Distribution method
Community newsletters	– Mining 101 – Exploration activities – Community involvement and participation – Planned mining project (design) – ESIA process – Company contact information	– Email to Project stakeholder list – Website
Patriot website	– Press releases – Technical reports – Community newsletters – Videos	– Publicly available
Informational videos	– Project design information	– Patriot's website – Virtual meetings – Public information sessions
Site visits	– Site tour – Cultural ceremonies	
Public information sessions (face to face)	– Engagement planning – Project design – ESIA – Baseline studies – Traditional knowledge – Company contact information	– PowerPoint presentations – Question and answer periods – World Café discussion tables – Feedback forms / questionnaires
Virtual meetings	– Project design – Project schedule – Environmental permitting – Baseline studies	– PowerPoint presentations – Question and answer periods
Radio broadcast	– Advertisement for and broadcast of public information sessions in Chisasibi	– Publicly broadcast community radio station
Stakeholder interviews	– Targeted interviews (land use, economic development, social services, etc.)	– One-on-one and as part of a group

3.4. Engagement activities (2023-2024)

Engagement activities throughout 2023 and 2024 were focused on regulators and developing a relationship with the Crees, especially the tallyman's family and the Cree Nation of Chisasibi. The main aim of this first phase of engagement was to initiate a dialogue, which has since continued, presenting the broad outlines of the Shaakichiuwaanaan Project to the key stakeholders, as well as gathering general concerns about the Project before initiating the environmental and social impact assessment (ESIA) process.

This initial stakeholder engagement established contact with key stakeholders and opened up communication channels by disseminating information about the Project design, schedule, and ongoing environmental baseline studies.

A summary of the engagement and communication activities that took place throughout 2023 and 2024 with non-Indigenous stakeholders is provided in the tables below for federal, provincial, and municipal governments.

Table 3: Summary of federal government communications (2023-2024)

Date	Communication type	Stakeholders	Summary of communication
2023-10-26	Virtual meeting	Agence d'évaluation d'impact du Canada Impact Assessment Agency of Canada	– Initial project description
2024-06-18	Virtual meeting	Agence d'évaluation d'impact du Canada Impact Assessment Agency of Canada	– Canada Impact Assessment Agency Federal Process – Shaakichiuwaanaan (formerly Corvette) Project
2024-10-30	Virtual meeting	Agence d'évaluation d'impact du Canada Impact Assessment Agency of Canada	– Understanding of the Federal Process and Initial project description
2024-11-05	Virtual meeting	Agence d'évaluation d'impact du Canada Impact Assessment Agency of Canada	– Understanding of the Federal Process and Initial project description
2024-11-08	Virtual meeting	Agence d'évaluation d'impact du Canada Impact Assessment Agency of Canada	– Understanding of the Federal Process and Initial project description
2024-11-14	Virtual meeting	Agence d'évaluation d'impact du Canada Impact Assessment Agency of Canada	– Understanding of the Federal Process and Initial project description
2024-11-26	Virtual meeting	Agence d'évaluation d'impact du Canada Impact Assessment Agency of Canada	– Introduction to the Project and the federal team
2024-12-05	Virtual meeting	Agence d'évaluation d'impact du Canada Impact Assessment Agency of Canada	– Collaborative approach and consultation with the Cree Nation Government
2024-12-18	Virtual meeting	Agence d'évaluation d'impact du Canada Impact Assessment Agency of Canada	– Understanding of the Federal Process and Initial project description

Table 4: Summary of provincial government communications (2023-2024)

Date	Communication type	Stakeholders	Summary of communication
2023-01-16	Virtual meeting	Ministère des Ressources naturelles et des Forêts (MRNF) (Ministry of Natural Resources and Forests)	– Presentation of the Shaakichiuwaanaan (formerly Corvette) Project
2023-02-06	Virtual meeting	Ministère des Ressources naturelles et des Forêts (MRNF) (Ministry of Natural Resources and Forests)	– Discussion about the Nouchimi camp and the lease at kilometre 270
2023-06-13	Face-to-face meeting	Ministère de l'Économie, de l'Innovation et de l'Énergie (MEIE) (Ministry of the Economy, Innovation and Energy)	– Introduction of Patriot
2023-08-01	Letter	Ministère de l'Économie, de l'Innovation et de l'Énergie (MEIE) (Ministry of the Economy, Innovation and Energy)	– Mineral Resources Estimate update, Albemarle and French website
2023-08-18	Face-to-face meeting	Ministère de l'Économie, de l'Innovation et de l'Énergie (MEIE) (Ministry of the Economy, Innovation and Energy)	– Potential partnerships
2023-10-30	Virtual meeting	Secrétariat aux relations avec les Premières Nations et les Inuit (First Nations and Inuit Relations Secretariat)	– Presentation of the Shaakichiuwaanaan (formerly Corvette) Project and approach with First Nations
2023-11-21	Face-to-face meeting	Société du Plan Nord (SPN)	– Informal meeting: Introduction to Patriot and the Shaakichiuwaanaan (formerly Corvette) Project
2023-11-21	Face-to-face meeting	Ministère des Ressources naturelles et des Forêts (MRNF) (Ministry of Natural Resources and Forestry)	– Introduction of the Shaakichiuwaanaan (formerly Corvette) Project to Minister Blanchette-Vezina
2023-11-22	Face-to-face meeting	Ministère des Ressources naturelles et des Forêts (MRNF) (Ministry of Natural Resources and Forestry)	– Introduction to Patriot and the Shaakichiuwaanaan (formerly Corvette) Project
2024-01-23	Virtual meeting	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) (Ministry of the Environment, the Fight against Climate Change, Wildlife and Parks)	– Discussion of geochemistry
2024-02-27	Virtual meeting	Secrétariat aux relations avec les Premières Nations et les Inuit (First Nations and Inuit Relations Secretariat)	– Follow-up meeting on the Project and community relations
2024-05-14	Virtual meeting	Société du Plan Nord (SPN)	– Action 2.2.2 of the Québec Plan for the Development of Critical and Strategic Minerals
2024-05-22	Virtual meeting	Ministère des Ressources naturelles et des Forêts (MRNF) (Ministry of Natural Resources and Forestry)	– Project update
2024-06-04	Virtual meeting	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) (Ministry of the Environment, the Fight against Climate Change, Wildlife and Parks)	– Impact study for the Shaakichiuwaanaan (formerly Corvette) Project
2024-07-11	Virtual meeting	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) (Ministry of	– Project update

Date	Communication type	Stakeholders	Summary of communication
		the Environment, the Fight against Climate Change, Wildlife and Parks) Ministère des Ressources naturelles et des Forêts (MRNF) (Ministry of Natural Resources and Forestry)	
2024-07-27	Virtual Meeting	Secrétariat aux relations avec les Premières Nations et les Inuits (First Nation and Inuit Relations Secretariat)	– Follow-up meeting
2024-08-22	Virtual meeting	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) (Ministry of the Environment, the Fight against Climate Change, Wildlife and Parks)	– Project update – Hydrology: methods, baseline studies; modelling approach
2024-08-27	Virtual meeting	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) (Ministry of the Environment, the Fight against Climate Change, Wildlife and Parks)	– Project update – Fish: preliminary results, baseline study methods, preliminary compensation projects
2024-09-03	Virtual meeting	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) (Ministry of the Environment, the Fight against Climate Change, Wildlife and Parks)	– Project update – Atmospheric environment: methods, reference stations, modelling scenarios and approach
2024-09-10	Virtual meeting	Société du Plan Nord (SPN)	– Action 2.2.2 of the Québec Plan for the Development of Critical and Strategic Minerals
2024-09-20	Virtual meeting	Société du Plan Nord (SPN)	– Discussion on the Route 167 extension project
2024-09-25	Virtual meeting	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) (Ministry of the Environment, the Fight against Climate Change, Wildlife and Parks) Ministère des Ressources naturelles et des Forêts (MRNF) (Ministry of Natural Resources and Forestry)	– Project update – Regulatory permitting process – Project schedule
2024-11-12	Virtual meeting	Société du Plan Nord (SPN)	– Action 2.2.2 of the Québec Plan for the Development of Critical and Strategic Minerals
2024-11-13	Virtual meeting	Société du Plan Nord (SPN)	– Discussion on the Route 167 extension project
2024-11-29	Virtual meeting	Société du Plan Nord (SPN)	– Action 2.2.2 of the Québec Plan for the Development of Critical and Strategic Minerals
2024-12-09	Virtual meeting	Secrétariat aux relations avec les Premières Nations et les Inuits (First Nations and Inuit Relations Secretariat)	– Community relations and project updates

Table 5: Summary of municipal communications (2023-2024)

Date	Communication type	Stakeholders	Summary of the communication
2023-10-12	Face-to-face meeting	Locality of Radisson	– Introduction
2023-10-27	Letter	Eeyou Istchee James Bay Regional Government (EIJBRG)	– Update on exploration activities
2023-11-21	Face-to-face meeting	Société de développement de la Baie-James (SDBJ)	– Informal meeting: Introduction to Patriot and the Shaakichiuwaanaan (formerly Corvette) Project
2024-03-13	Virtual meeting	Eeyou Istchee James Bay Regional Government (EIJBRG)	– Introduction of the Shaakichiuwaanaan (formerly Corvette) Project and update on exploration activities
2024-06-04	Letter	Eeyou Istchee James Bay Regional Government (EIJBRG)	– Acquisition of Shaakichiuwaanaan (formerly Corvette) mining claims
2024-06-13	Email	Eeyou Istchee James Bay Regional Government (EIJBRG)	– New application for authorizing exploration activities with impacts (ATI)
2024-06-13	Virtual meeting	City of Matagami	– Introduction of the Shaakichiuwaanaan (formerly Corvette) Project
2024-06-18	Email	Eeyou Istchee James Bay Regional Government (EIJBRG)	– Update on exploration activities
2024-06-21	Email	Eeyou Istchee James Bay Regional Government (EIJBRG)	– Update on exploration activities
2024-11-29	Letter	Gouvernement régional d'Eeyou Istchee Baie-James (GREIBJ) (Eeyou Istchee James Bay Regional Government)	– Planned activities for 2025
2024-12-05	Virtual meeting	Gouvernement régional d'Eeyou Istchee Baie-James (GREIBJ)) (Eeyou Istchee James Bay Regional Government)	– Project update and invitation to participate in the regional working group on spodumene concentrate transportation
2024-12-05	Virtual meeting	Town of Matagami	– Project update, discussion on transportation and invitation to participate in the regional working group on spodumene concentrate transportation
2024-12-10	Virtual meeting	Locality of Radisson	– Project update and invitation to participate in the regional working group on spodumene concentrate transportation

3.5. Summary of issues

The main comments and concerns expressed to date by non-Indigenous stakeholders during the various communication activities presented in the previous section are summarized in Table 6 below. The table details the key issues raised to date by theme, and identifies Patriot's approach to address the stakeholder concerns.

Table 6: Main comments and concerns expressed during consultation activities with non-Indigenous stakeholders

Themes	Comment / Concern	Approach to address the concern
Local and regional economy	– Radisson and Matagami would like to take advantage of the opportunities offered by the Project to benefit from local and regional economic spin-offs. – Risks associated with fluctuations in the value of lithium. – Project energy requirements.	– Patriot values the economic success of local communities and is committed to ensuring that the Company's activities and value chain provide sustainable, mutual benefits. The Company prioritizes business relationships with contractors that employ and source locally, specifically within the community of Chisasibi. A responsible procurement strategy is in place with a perspective of continuous improvement. – Patriot has initiated a power trade-off study to detail electrical needs and assess potential transmission line routes to confirm the best alternative.
Communication and consultation process	– Initiate dialogue with the people of Radisson with a presentation session on the Project. – Promoting an inclusive approach to achieve greater social acceptability.	– Positive, mutually beneficial relationships with the communities in which Patriot operates are invaluable. Ensuring the Company's activities provide meaningful benefits is paramount as is a continuous dialogue with Indigenous and non-Indigenous stakeholders. Patriot implements an engagement approach based on a culture of respect, communicating its values and expectations, and rewarding respectful behaviour.
Transport	– The various projects in the James Bay Eeyou Istchee region are increasing the pressure on the region's only road access, the Billy-Diamond Road. – The increase in traffic may lead to a rise in collisions on the Billy-Diamond Road.	– Patriot is committed to: ▪ Identifying opportunities to reduce traffic impacts; ▪ Establishing noise and dust measurement stations; and ▪ Maximizing benefits to local communities from Project transportation and fleet requirements. – In 2023, the Company undertook a pre-feasibility transport study to determine potential transportation routes, if the infrastructure was available, the approximate equipment and workforce requirements. This study, combined with discussions with the town of Matagami, allowed the Company to confirm that Matagami is a suitable location for a transportation hub.
Health and quality of life	– How to maximize the positive spin-offs of the Project in order to attract new residents to Radisson. – Measures to reduce commuting (*Fly-In / Fly-Out)*. – Forest fire measures and evacuation plan.	– Patriot is committed to looking for opportunities to generate or enhance positive impacts such as contributions to the social and economic growth of our communities through the prioritization of local procurement and employment, and investment in sustainable community and educational initiatives. – Patriot has developed a Fire Response Manual and a Fire Watch Protocol for our work in the boreal forest.
Regulations	– Compliance with legislation and authorization processes at various levels of government, including municipal regulations.	– All laws, regulations, guidelines, policies must be respected by Patriot employees and contractors, and applicable authorizations and permits must be obtained from relevant ministries.

3.6. Future engagement plan

Engagement with government regulators and local stakeholders will be undertaken throughout the Project and the ESIA process. Patriot continues to focus on gathering stakeholder comments, questions, and concerns about the Project, to optimize its overall performance and ensure that its integration into the host environment is well harmonized.

Following the formal start of the federal environmental and social assessment process, more detailed consultations will be undertaken to focus on key issues such as fish habitat, mine rock/waste management, and water management.

Engagement will be focused on Project milestones to keep stakeholders informed as the planning process advances. Regular community news briefs / factsheets (project design, ESIA studies, feedback forms / questionnaires, company contact information) will be distributed to the stakeholder list, and focused interviews will be scheduled to gather additional information about regional and social services including:

- Health care services
- Education services
- Municipal services
- Employment and economic development

4. ENGAGEMENT ACTIVITIES WITH INDIGENOUS GROUPS

Patriot takes very seriously the development of a strong and lasting relationship built on mutual respect. Since 2022, more than 240 communication activities have taken place with various stakeholders, including more than 170 with Chisasibi leadership, land users, Chisasibi community members, entrepreneurs, and organizations, reflecting a high level of broad community participation in consultation processes to date. Patriot's ESG team visits the Chisasibi community in person, approximately every six weeks. In January 2024, Patriot hired a Community Liaison Coordinator, based in the community of Chisasibi.

To further our presence in the community of Chisasibi, on August 1, 2024, Patriot began leasing an office space in the Chisasibi Commercial Center. Patriot's Community Liaison Coordinator is working out of the office, providing Chisasibi community members with the opportunity to discuss the Shaakichiuwaanaan Project and provide feedback as the Project progresses. Patriot also organizes activities to strengthen its ties and exchange on Cree culture with Chisasibi community members, such as the Shaakichiuwaanaan Day on June 1, 2024. At this event, the Patriot Board, Executives, site workers, and members of the Cree community of Chisasibi shared a special celebration including building a sabtuan (long teepee) and sharing traditional food at the Shaakichiuwaanaan Camp. The elders and members of the CH39 tallyman's family travelled by helicopter with Patriot team members to offer tobacco at the lake located near CV5.

Also, in mid-October 2024, members of the CH39 tallyman's family, Patriot and site workers built together a cabin on the trapline, so the family members can pursue their Cree way of life on the territory. Patriot also invited members of the CH39 tallyman's family to attend events organized by the Québec Mineral Exploration Association

in Montréal in October 2023 and 2024, so they could receive with Patriot the 2023 Discovery of the Year Award and the 2024 Entrepreneur of the Year Award and be recognized as partners on the Shaakichiuwaanaan Project.

In July 2024, Patriot formally renamed the Corvette Project to the Shaakichiuwaanaan Project, as proposed by the Chisasibi elders and members of the tallyman's family. The name is inspired by the four Shaakichiuwaanaan hills in the vicinity of the CV5 spodumene pegmatite. A logo has been developed for the Project, designed in collaboration with the CH39 tallyman's family. The camp logo includes Cree symbols such as a goose, teepee and syllabic writing. The stars refer to team spirit, the blue and white mountains represent both the CV5 spodumene pegmatite and the four surrounding hills, and the wavy lines illustrate Shaakichiuwaanaan Lake beneath which part of the mineral resource lies. This change of name reflects Patriot's commitment to build a strong relationship with the Cree Nation of Chisasibi and the CH39 tallyman's family. Patriot acknowledges, highly values, and respects traditional Cree territory and their connection to the land. Introducing a Cree language reference to the Project name presents a great opportunity to share Cree culture through the storyline the name represents. In this way, Patriot can further share Cree culture with the broader Patriot stakeholder community.

The participation of local Cree community members in Shaakichiuwaanaan site activities includes drilling operations, civil works, camp operations, and road construction. More than 120 First Nations workers have worked on the Project to date during 2024. In 2023, 48 First Nation workers worked on the Shaakichiuwaanaan Project, representing collectively more than 2 650 days of work; the year started with 7% of the workforce identifying as First Nations workers and reached a peak of 28% by year end.

Environmental baseline data collection has been underway at the site since 2022, conducted by a Cree enterprise, Niigaan. As part of this joint venture partnership, Chisasibi community members assist biologists from various environmental consulting firms, in a mutually beneficial approach allowing for sharing of information from Crees that reflects their unique understanding of their land.

Patriot benefits from the advice from Cree leadership familiar with other mining projects operating on the Eeyou Istchee territory on how to balance Cree way of life and Cree objectives with mine development and operations. For example, the current Deputy Chief of Chisasibi was closely implicated into the consultation and Impact Benefit Agreement (IBA) negotiation for the Éléonore Mine, located on a trapline of the Cree Nation of Wemindji, as he was the son-in-law of the tallyman. Recognizing this knowledge exists, Patriot is working with the leadership of Wemindji and the Mayappo family to share their experience with the leadership of Chisasibi and the tallyman of trapline CH39 and his family.

Patriot will also seek input from Deputy Chief from the Cree Nation of Mistissini about his community experience with Stornonway's Renard Mine. Patriot is also looking for other opportunities to access to Cree views and to reflect them into the Shaakichiuwaanaan Project design. In this spirit, and knowing that transportation is a concern for Crees, another objective is to learn from the Commerce and Industry Department of the Cree Nation Government regarding regional transportation. Patriot is aware that the La Grande Alliance studied this topic through a thorough consultation process with Cree community members.

The foundations of the pre-consultation process were used to inform and engage identified Indigenous groups.

The Indigenous groups targeted as part of this initial information process are presented in Table 7.

Table 7: Identified Indigenous stakeholders

Category	Stakeholders
Indigenous communities	Cree Nation of Chisasibi (primary) Cree Nation of Wemindji (secondary) Cree Nation of Mistissini (secondary) Cree Nation of Eastmain (tertiary) Cree Nation of Waskaganish (tertiary) Cree Nation of Nemaska (tertiary) Cree Nation of Waswanipi (tertiary)
Regional organizations	Cree Nation Government
Local land users	Tallyman and family on trapline CH39 Tallyman on trapline M02A Tallyman on trapline VC26 Cree Trappers Association
Chisasibi entrepreneurs, economic, and community organizations	Chisasibi Business Development Group (CBDG) Chisasibi Business Service Center Saskounan (construction company) Niigaan (environmental consultant) Chisasibi Eeyou Resource and Research Institute (CERRI) Cree Board of Health Cree School Board Youth council Chisasibi Cree Women Association Chisasibi Cree Men Association

4.1. Engagement approach

Patriot has taken a collaborative approach with its primary Indigenous community, the Cree Nation of Chisasibi and in particular with the tallyman of trapline CH39 and his family. Information sharing and opportunities for engagement and participation will be provided to all regional Indigenous communities that express an interest in the Shaakichiuwaanaan Project. The information gathered, particularly the traditional knowledge shared by the Indigenous land users, will be integrated into the design of the Project and the analysis of its impacts.

A number of Indigenous communities with a potential interest in the Project were identified within the local Project area. In an effort to focus engagement activities, each community's respective interest in the Project has been evaluated according to the Company's current understanding of the Project's potential impact on the community and their associated traplines. The preliminary level of community interest in the Project has been summarized in Table 8 below.

Table 8: Level of interest of Indigenous Communities – preliminary

Indigenous Community	Approximate distance from the Project	Level of Interest – preliminary
Cree Nation of Chisasibi	– Community located 330 km west of the Project – Project located within CH39 a Chisasibi trapline	Primary
Cree Nation of Mistissini	– Community located 350 km south of the Project – Trapline located directly south (1 km) of the Project	Secondary
Cree Nation of Wemindji	– Community located 330 km southwest of the Project – Traplines located along the Trans-Taiga Road	Secondary
Cree Nation of Eastmain	– Community located 420 km southwest of the Project adjacent to the Billy-Diamond Highway	Tertiary
Cree Nation of Waskaganish	– Community located 510 km southwest of the Project adjacent to the Billy-Diamond Highway	Tertiary
Cree Nation of Nemaska	– Community located 685 km southwest of the Project adjacent to the Billy-Diamond Highway	Tertiary
Cree Nation of Waswanipi	– Community located 470 km south of the Project	Tertiary

The community of Chisasibi is considered the primary community, because the Project is located entirely within a Chisasibi trapline (CH39). Communications with the Chisasibi community have been ongoing throughout 2023 and 2024 and have included a variety of stakeholders within the community such as the tallyman and his family, community members, businesses and organizations, and the Chief and Council.

The communities of Mistissini and Wemindji are considered secondary due to their proximity to the Project, and the proximity of community traplines near the Project and the Trans-Taiga Road, which is the sole access road to the Project. The remaining regional Indigenous communities are considered tertiary due to their proximity to the Billy-Diamond Highway, which will also be used for transportation of Project goods and services.

Patriot respects the rights and interests of Indigenous people and will continue to incorporate their comments and concerns in the design, development, and operation of the Project. Patriot also intends to outline the potential impacts of the Project, both positive and negative, whether related to the disturbance of traditional lands and resources or to natural, cultural, and spiritual heritage. Patriot will ensure that the results of any engagement activities are mutually understood by Indigenous groups and their community members.

4.2. Engagement tools

The Indigenous engagement activities have included use of the engagement tools listed in Table 3. In addition to these communication tools, Chisasibi community members have also been engaged to participate directly in environmental baseline field work through the Chisasibi-based environmental consultant Niigaan.

Collaborative Indigenous committees focused on environmental and economic issues are also planned to be established as a key tool for future engagement activities.

4.3. Engagement activities (2023-2024)

Since 2023, Patriot has met several times with Chisasibi Chief and Council, the tallyman of trapline CH39 and his extended family, businesspeople and Chisasibi community members. A variety of information has been discussed, including exploration, environmental inventory and construction activities, opportunities for participation in the project, mineral resource estimates, traditional knowledge and uses of the land, communication and consultation mechanisms, questions and concerns, mining industry basics, environmental protection and authorization processes, wildlife management and emergency response plans. In all, more than 75 communication activities have been undertaken with Chisasibi in 2023 alone. In 2024, more than 85 communication activities with this community took place. The following provides a summary of some of the key communications.

A plain language community newsletter was produced and circulated to Chisasibi stakeholders every three months since October 2023. The community newsletters are available in French and English on Patriot's website.

The information provided in the community newsletters to date has included an introduction to Patriot staff members, information about lithium and the mining industry, the environmental assessment process, Project design details, and exploration updates.

Table 9: Community newsletters

Date sent	Content
2023-10-19	The Shaakichiuwaanaan (formerly Corvette) Project; Lithium and the mining cycle
2024-01-11	Project update; Environmental assessment process; Jobs
2024-04-11	Conceptual design; evaluation of variants; the mining project cycle
2024-07-19	Project update; Environmental assessment process; Exploration activities
2024-10-21	Project update; Mineral resources estimate; Preliminary economic assessment;

Table 10 provides a summary of engagement activities within the primary Indigenous community, Chisasibi.

Table 10: Summary of communications with the Chisasibi community

Date	Type of communication	Summary of the communication
2023-01-10	Face-to-face meeting	Introductory meeting with Niigaan
2023-01-10	Face-to-face meeting	Introductory meeting with the Director of Investment Projects
2023-01-11	Face-to-face meeting	Introductory meeting with the CH 39 trapline family
2023-01-11	Face-to-face meeting	Presentation of the Shaakichiuwaanaan (formerly Corvette) Project to the Chief and Council
2023-02-27	Face-to-face meeting	Discussion on the traditional knowledge of the CH 39 trapline family
2023-02-28	Face-to-face meeting	Discussion on the Chisasibi community consultation expectations
2023-02-28	Public event	Overview of mining exploration
2023-03-01	Face-to-face meeting	Contact with the Chief and Deputy Chief
2023-03-08	Virtual meeting	Presentation of the Shaakichiuwaanaan (formerly Corvette) Project to the Chief and Council
2023-04-12	Face-to-face meeting	Informal meeting with the CH39 trapline family
2023-04-13	Face-to-face meeting	Introductory meeting with the Lands and Environment Officer
2023-04-13	Face-to-face meeting	Introductory meeting with the Chisasibi Business Development Group (CBDG)
2023-04-14	Face-to-face meeting	Follow-up with the Chief and Deputy Chief

Date	Type of communication	Summary of the communication
2023-08-14	Face-to-face meeting	Follow-up to the exploration protocol
2023-08-14	Face-to-face meeting	Mineral resource estimate and strategic investment presentation
2023-08-16	Face-to-face meeting	Follow-up to the exploration protocol
2023-08-16	Face-to-face meeting	Monitoring the management of wildlife
2023-08-16	Face-to-face meeting	Training opportunities
2023-09-08	Virtual meeting	Introduction to the residential school response coordinator
2023-10-11	Public event	Project update; results of winter survey of birds and large mammals; community employment participation
2023-10-11	Face-to-face meeting	Update on the Chisasibi Business Development Group (CBDG)
2023-10-11	Face-to-face meeting	Update with the Chief and Deputy Chief
2023-10-12	Face-to-face meeting	Follow-up with the Chisasibi Business Development Group (CBDG)
2023-10-12	Face-to-face meeting	Follow-up with Saskounan / Niigaan
2023-11-14	Virtual meeting	Strategies for retaining Cree workers
2023-12-08	Virtual meeting	Follow-up with Cree Nation of Chisasibi and Cree Nation Government on exploration protocol
2023-12-08	Virtual meeting	Presentation of Patriot and the Shaakichiuwaanaan (formerly Corvette) Project to the Chisasibi Natural Resources Liaison Officer
2024-01-16	Public event	Information session on the environmental assessment process
2024-01-17	Face-to-face meeting	Presentation of the ESIA process and the exploration protocol to the Chief and Council
2024-01-17	Face-to-face meeting	Follow-up with the Chisasibi Natural Resources Liaison Officer
2024-01-17	Face-to-face meeting	Presentation of the project description to the CH39 trapline family
2024-01-19	Virtual meeting	Announcing a change of direction
2024-02-08	Virtual meeting	Follow-up to the exploration protocol
2024-02-23	Virtual meeting	Follow-up to the exploration protocol
2024-02-27	Virtual meeting	New procedure for authorizing exploration activities with impacts (ATI)
2024-03-08	Virtual meeting	Follow-up to the exploration protocol

Date	Type of communication	Summary of the communication
2024-03-12	Face-to-face meeting	Consultation for exploration activities with impact authorization (ATI) and other activities
2024-03-15	Virtual meeting	Relationship between Fusion Drilling and Saskounan and invitation to an information session
2024-03-18	Virtual meeting	Follow-up to the exploration protocol
2024-03-19	Virtual meeting	Saskounan CEO presents to Patriot CEO
2024-03-25	Face-to-face meeting	Video presentation of the Project description to the CH39 trapline family
2024-03-26	Public event	Exploration protocol
2024-03-27	Face-to-face meeting	Exploration protocol
2024-03-27	Face-to-face meeting	Discussion with the CH39 trapline family sisters on the benefits
2024-04-08	Virtual meeting	Exploration protocol and plans for community visits
2024-04-15	Face-to-face meeting	Informal introduction – Chisasibi Eeyou Research and Resource Institute
2024-04-15	Public event	Water management; fish and wildlife; soil quality; air quality; transport and traffic; health and safety; closure and sanitation; culture and society; training and employment
2024-05-01	Virtual meeting	Logistics and planning
2024-05-21	Virtual meeting	Logistics and planning
2024-05-31	Face-to-face meeting	Presentation by the Board of Directors and Management to Deputy CEO Mark Wadden
2024-05-31	Visit to the community	Board and management visit Chisasibi
2024-05-31	Face-to-face meeting	Follow-up with the Eeyou Research and Resource Institute in Chisasibi
2024-06-01	Public event	Shaakichiuwaanaan day — visit to the site and traditional ceremony
2024-06-04	Letter	Acquisition of Shaakichiuwaanaan (formerly Corvette) claims
2024-06-12	Virtual meeting	Application to use a helicopter to fly over a trapping ground
2024-06-13	Virtual meeting	Presentation on Shaakichiuwaanaan Day
2024-06-19	Virtual meeting	Follow-up on consultations for exploration activities with impact authorization (ATI) (stripping activities)
2024-07-08	Face-to-face meeting	Public consultation on the exploration protocol

Date	Type of communication	Summary of the communication
2024-07-16	Virtual meeting	Concerns about working on the site
2024-07-19	Virtual meeting	Monitoring concerns about work on the site
2024-07-19	Virtual meeting	Next steps in the exploration protocol
2024-07-19	Virtual meeting	Next steps in the exploration protocol
2024-07-29	Virtual meeting	Shaakichiuwaanaan Day and next steps in the exploration protocol
2024-07-30	Face-to-face meeting	Exploration protocol: CH 39 trapline family with Chief and Council
2024-08-12	Public event	Exploration protocol
2024-08-13	Face-to-face meeting	The discussion with the CH39 trapline family covered the description of the Project, exploration, assessment of alternatives, archaeology, sound and noise, and traditional plants.
2024-08-27	Face-to-face meeting	Next steps in the exploration protocol
2024-09-09	Face-to-face meeting	Discussions with the CH39 trapline family focused on preliminary economic assessment, traditional plants, sound and noise, visual assessment, archaeology and traditional land use.
2024-09-10	Public event	Presentation and discussions in small groups on the preliminary economic assessment, business and employment opportunities, water management, closure planning, transport and traffic.
2024-09-11	Face-to-face meeting	Presentation by the President of the Cree Construction and Development Company (CCDC)
2024-10-03	Virtual meeting	Follow upon the Exploration Protocol and other community events
2024-10-10	Virtual meeting	Planification for a visit in Wemindji and Éléonore Mine
2024-10-17	Virtual meeting	Planification of a meeting with Wemindji Leadership and tallyman
2024-10-25	Virtual meeting	Planification of a meeting with Wemindji Leadership and tallyman
2024-11-01	Virtual meeting	Planification of a meeting with Wemindji Leadership and tallyman
2024-11-06	Virtual meeting	Planification of a meeting with Wemindji Leadership and tallyman
2024-11-18	Virtual meeting	Follow-up on previous meetings with the Wemindji tallyman and the Cree Nation Government
2024-11-21	Virtual meeting	Follow-up on previous meetings with the Wemindji tallyman and the Cree Nation Government
2024-12-05	Virtual meeting	Planning of a meeting and request for a visit of the Éléonore Mine
2024-12-06	Letter	Planned activities for 2025

Date	Type of communication	Summary of the communication
2024-12-09	Virtual meeting	Project update with Natural Resources Liaison Officer and collaborative approach
2024-12-10	Face-to-face meeting	Achievements of 2024 and planned activities for 2025

Additional engagement activities with Indigenous groups have included introductions, virtual, and face-to-face meetings, as well as information sessions, discussion groups, and business meetings. Table 11 provides a summary of communication activities with additional Indigenous communities and stakeholders.

Table 11: Summary of communications with identified Indigenous stakeholders

Date	Type of communication	Stakeholders	Summary of the communication
2022-09-09	Phone call	Cree Nation Government (CNG)	Sourcing local labour
2022-10-06	Face-to-face meeting	Cree Nation Government (CNG)	Sourcing local labour
2022-12-20	Phone call	Cree Nation Government (CNG)	Information on exploration activities
2023-02-20	Virtual meeting	Cree Nation of Mistissini (CNM)	Introductory meeting with the Deputy Chief of the Cree Nation of Mistissini
2023-03-08	Phone call	Cree Nation of Mistissini (CNM)	M02A trapline consultation approach confirmed
2023-05-25	Virtual meeting	Cree Nation of Mistissini (CNM)	Introduction with the Mistissini economic development group
2023-11-22	Face-to-face meeting	Cree Mineral Exploration Board	Introduction of Patriot and the Shaakichiuwaanaan (formerly Corvette) Project
2023-11-22	Face-to-face meeting	Cree Nation Government (CNG)	Introduction of Patriot and the Shaakichiuwaanaan (formerly Corvette) Project
2024-02-20	Face-to-face meeting	Cree Nation Government (CNG)	Cree 101 training for Board members and management
2024-06-26	Virtual meeting	Cree Nation of Mistissini (CNM)	Project description and ESIA procedure
2024-07-25	Phone call	Cree Mineral Exploration Board (CMEB)	Discussion on the industry and job opportunities
2024-10-01	Virtual meeting	Cree Nation Government (CNG)	Consultation approach
2024-12-02	Virtual meeting	Cree Nation of Mistissini (CNM)	Update of the project description and collaborative approach
2024-12-05	Phone call	Cree Nation of Wemindji (CNW)	Organization of a visit to the Éléonore mine site with Mayappo tallyman

Date	Type of communication	Stakeholders	Summary of the communication
2024-12-11	Virtual meeting	Cree Nation of Wemindji (CNW)	Project presentation to the chief and deputy chief and collaborative approach
2024-12-12	Virtual meeting	Cree Nation of Mistissini (CNM)	Project update discussion to the deputy chief and collaborative approach

4.4. Summary of issues

The following information describes the initial thoughts and concerns expressed by Indigenous community members, and land users and should in no way be regarded as definitive or complete. This information will evolve as the Project progresses. The meetings held to date have made it possible to understand the key issues and concerns of the identified Indigenous groups. The main concerns expressed at these meetings are set out in Table 12.

Table 12: Indigenous groups comments and concerns

Theme	Comment / Concern	Approach to address the concern
Water quality and fish habitat	– Impact of mine effluent on the environment. – Management of surface water/runoff from the mine. – Water requirements to supply the mine. – Water protection and how water will be treated by the Company. – Cumulative impacts on fish habitat.	– The planned water management approach as described in the Preliminary Economic Assessment was shared with the community in September 2024. – Additional details on water management measures will be discussed with the community, the family and the Collaborative Indigenous Environmental Committee once it is established. – With regards to fish habitat, Patriot is committed to: ▪ Characterize fish habitat, fish populations and fish tissue in potentially impacted waterways and waterbodies. ▪ Seek opportunities to reduce and minimize impacts on fish habitat; and ▪ Seek opportunities to invest in fish habitat improvement projects in the region. – With regards to water quality, Patriot is committed to: ▪ Understanding the existing water quality ▪ Modelling water quality of the Project effluent including an understanding of geochemistry and other impacts to water quality during mining/processing ▪ Designing water treatment systems to ensure water quality at discharge meets regulatory requirements
Traditional use	– Disruption of traditional activities (hunting, fishing, trapping, berry picking, etc.) throughout the mine's life cycle (construction, operation, and closure); alteration of air, water and soil quality, as well as impacts on plants and animals.	– Patriot is committed to: ▪ Identifying existing land use and sensitive receptors; ▪ Identifying special plants and wildlife of interest to local land users; and ▪ Investing in traditional and cultural enrichment opportunities.

Theme	Comment / Concern	Approach to address the concern
Cumulative impacts	– To date, the cumulative impact of disturbances on the traplines has made the resource scarce. – The increase in activity on the Trans-Taiga is having an impact on the decline in the number of moose and caribou visiting the area. – Hydroelectric development tops the list of contributors to cumulative impacts. – Land users have mentioned that, as a result of the creation of the Hydro-Québec reservoirs, the quality of the fish has declined considerably. – The various projects in the Eeyou Istchee James Bay region are increasing the pressure on the region's only road access, the Billy-Diamond Highway. – There is pressure on health services from various development projects.	– Patriot has developed a land user questionnaire and plans to schedule land use interviews in 2024 and 2025. – Interviews with the Cree Health Board will be scheduled for 2025. – A cumulative impact assessment is planned to be undertaken as part of the provincial and federal impact assessment.
Local and regional economy	– The Indigenous communities do not only want to suffer the negative impacts of the Project, but also to benefit from the opportunities it offers. – Land users would be interested in partnering with the proponent in the various activities and work to be carried out in the area as the environmental and social assessment of the Project progresses. – Comments were made on the importance of addressing future training and employment/contract opportunities within the affected families and community. It was also made clear that the current spirit of collaboration in these early stages of the Project does not translate into acceptance or approval of the Project. – The stakeholders we met would like to know more about the economic situation of the lithium mining industry. – It is proposed to involve an Indigenous liaison officer to facilitate the participation of Cree community members (information sharing, jobs, contracts, etc.). – The importance of drawing up a list of training needs and the jobs that will be available was stressed. – Some issues relating to certain recruitment criteria considered to be too high, particularly regarding mastery of the French language were raised. – There is a desire for the establishment of education agreements	– Negotiation of an Impact Benefit Agreement is anticipated as part of the Project planning process. – Patriot has engaged Niigaan, a Chisasibi-based environmental consultant to provide environmental field technicians on baseline studies throughout the past several years. – An Economic Development Committee is contemplated for the future to further detail economic opportunities, including training, employment, and contracting opportunities. – Community news briefs with plain language information about the mining industry have been circulated throughout the past several months. – A full-time Community Liaison Coordinator was hired in January 2024 and office space in Chisasibi was leased in August 2024. – Patriot hired a Human Resources Director in October 2024. A list of mine workforce positions will be developed as part of the Feasibility Study including developing training requirements for the positions

Theme	Comment / Concern	Approach to address the concern
Communication and consultation process	– All the Eeyouch (James Bay Cree) we met felt it was important to establish a relationship of trust. – For consultation events, the Cree favour the use of the Conversation Café (also known as the World Café) method, which is said to be the most productive. – For the Crees, and particularly the main users of the area, the best communication tools for reaching communities would be local radio and social media. – It is important to reach out to the younger generation by broadening the means of communication, in particular via the web, social media, site visits or by directly inviting students to take part in information and consultation events. – The importance of translating documentation into Cree and communicating in Cree as much as possible was stressed.	– Patriot has a Stakeholder Engagement Protocol that establishes guidelines to build and maintain a meaningful relationship with community stakeholders. This protocol is based on 6 key steps: ▪ Identifying the Project parameters and responsibilities to fulfill the duty to inform. ▪ Identifying stakeholders and learn about the social environment. ▪ Planning and contact with key stakeholders. ▪ Ongoing communication, feedback and follow-up. ▪ Reporting. ▪ Sharing information with employees and entrepreneurs. – Patriot is respecting these principles while interacting with Indigenous groups: ▪ Engage early enough to identify key concerns upstream in the Project. ▪ Notify stakeholders in advance of the consultation activities. ▪ Ensure all participants have sufficient time to express their opinion and concerns. ▪ Actions are adequately timed (e.g., considering other events or traditional activities) ▪ Present content meaningful to the stakeholder and in an understandable format ▪ Conduct consultation or information session in local language (e.g., translator, accessible wording) ▪ Adopt two-way methods so that both sides can exchange views and information ▪ Include all potential interested parties (e.g., elders, youth, men, women, etc.) ▪ Keep track of who was consulted and key issues raised. – Ongoing consultation and information activities as required during the life of the Project
Transport	– The risk of accidents/collisions caused by increased traffic. – Impact of increased traffic on large wildlife.	– A transportation plan will be developed in collaboration with local and regional Indigenous communities.

Theme	Comment / Concern	Approach to address the concern
Health and quality of life	– A number of social and quality of life concerns were raised: ▪ Equity in employment and career development ▪ Problems associated with systemic racism ▪ Cultural safety (lifestyle, language, spirituality, cultural sites, traditional food, etc.) ▪ Greater openness of the territory, with the risk of an increase in human trafficking (disappearance of Indigenous women) ▪ Risk to the health and safety of workers and land users ▪ Measures in place in the event of forest fires and an evacuation plan ▪ Difficulty reconciling work and family life (rotating shifts) ▪ Competition for local labour – Risks and failures linked to site operations (exceptional events)	– Patriot is committed to: ▪ Providing diverse, inclusive, and culturally safe workplaces with a continuous improvement perspective.
Regulations	– The James Bay and Northern Quebec Agreement (JBNQA) sets out several questions that need to be answered in order to understand the authorization and consultation process and the environmental protection regime.	– The JBNQA will be continually referenced and respected throughout the Project planning process

4.5. Future engagement plan

Patriot has developed an Indigenous engagement plan based on mutual cooperation and collaboration with a view to maintaining a strong, ongoing link with the Indigenous groups potentially affected by the Project.

The proposed engagement approach is flexible and will be presented to Indigenous groups to allow for the opportunity for adaptation according to feedback received. Planned engagement activities will first aim to gather the concerns and interests of Indigenous communities and groups, in particular those relating to environmental and social concerns as they relate to the planned Project.

Key discussion topics are planned to be in the following categories:

Project design

- Project description
- Calendar / Schedule
- Evaluation of alternatives
- Closure planning

Social environment

- Traditional land use
- Archaeology
- Socioeconomics
- Traffic and transportation

Physical environment

- Air quality and noise
- GHGs and climate change
- Water quality
- Hydrology and hydrogeology
- Landscape and visual impacts

Biological environment

- Fish and habitat
- Wildlife and endangered species
- Wetlands

The establishment of two committees is planned to facilitate focused discussions on environmental and economic issues with the primary Indigenous community. The committees are planned to also include a staff member from Patriot, a member of the community of Chisasibi, and a member of the Cree Nation Government. The committees are planned to meet on a monthly basis or as mutually agreed upon/required.

Through this approach, Patriot seeks to understand the views and concerns of Indigenous groups and to openly discuss its activities and performance. The Company will endeavour to encourage open dialogue, both formally and informally, to give Indigenous communities the opportunity to voice their opinions and concerns about the Project. The outcome of discussions with Indigenous groups will enable the Project to be designed to meet their concerns and interests and to optimize its social acceptability.

Additional meetings and interviews are planned in the coming months with members of the various Cree communities occupying the Eeyou Istchee James Bay Territory to provide a Project update and collaborate on the development of a transportation plan along the Billy-Diamond Highway and Trans-Taiga Road. Meetings and interviews with socioeconomic stakeholders in the communities will also be held to confirm the understanding of the existing services and how the Project can collaborate with regional service providers.

5. REGIONAL STUDIES, PLANS, OR ASSESSMENTS

The sections below set out any studies or plans relating to the Project that have been or are being carried out in respect of the region where the Project is to be carried out. These studies or plans include, in particular, any regional assessment that has been or is being conducted pursuant to sections 92 or 93 of the Impact Assessment Act (IAA; S.C. 2019, c. 28, s. 1). It also includes any study or plan carried out by or on behalf of any body, including an Indigenous governing body, that is available to the public.

5.1. Studies and plans relating to the project

The studies and plans relating to the Project are currently as follows:

- NI 43-101 *Technical Report Preliminary Economic Assessment for the Shaakichiuwaanaan Project*, James Bay region, Québec, Canada (September 13, 2024)

5.2. Regional assessments

Based on the available information consulted, no regional assessment in relation to the Project has been conducted pursuant to sections 92 and 93 of the IAA (S.C. 2019, c. 28, s. 1), or by or on behalf of any other jurisdiction, including an Indigenous governing body.

6. STRATEGIC ASSESSMENT

No strategic assessment relating to the project has been or is being carried out under section 95 of the IAA.

A report prepared by Environment and Climate Change Canada has been published on the Strategic Climate Change Assessment[2] (SCCCA). The SCCA has been recognized as a strategic assessment under Section 95 of the EIA and applies to projects designated under the Act. This document provides guidance to proponents on how federal impact assessments consider greenhouse gas emissions and the ability of a project to withstand climate change. This approach is intended to ensure consistent, predictable, efficient, and transparent consideration of climate change issues at each stage of the impact assessment process.

7. RATIONALE, NEED, AND POTENTIAL BENEFITS OF THE PROJECT

Spodumene (a lithium aluminum silicate) is the hard rock lithium mineral found in a type of rock called pegmatite that is commonly mined commercially around the world. The main objective of the Shaakichiuwaanaan mining Project is to mine a spodumene-bearing pegmatite deposit in Eeyou Istchee James Bay and produce a concentrate. This concentrate can be sold to one or more customers for conversion into lithium hydroxide (LiOH), used in the production of lithium batteries.

Lithium is a key element in the infrastructure and technology of tomorrow's world. With a range of target markets from personal electronics and transport to large-scale energy storage and distribution projects, lithium is a major asset with almost limitless usage scenarios.

[2] Government of Canada. 2020. *Strategic Climate Change Assessment*. Revised, October 2020. 21 p.

As the world continues its transition to a cleaner, greener future, lithium, in the form of lithium-ion batteries, and its use in energy storage and distribution systems and, of course, electric vehicles (EVs), continues to be a key resource in reducing the global environmental impact. This is inevitably leading to strong market growth in this sector.

In this global context, the governments of Québec and Canada have drawn up strategies for the development of critical and strategic minerals and the battery industry. The development of the Project will enable Québec and Canada to meet global demand for lithium, and is in line with these strategies.

Patriot's objective is to develop the next lithium district in North America, and specifically to develop the Shaakichiuwaanaan property, which hosts numerous spodumene-bearing pegmatites, including CV5, one of the groups of pegmatites that has been the subject of an updated mineral resource estimate of 78.6 Mt at 1.43% lithium oxide (Li_2O) and 162 ppm tantalum oxide (Ta_2O_5) in the indicated category and 43.3 Mt at 1.25% Li_2O and 161 ppm Ta_2O_5 in the inferred category (at a cut-off of 0.40% Li_2O) (Patriot, 2024). By bringing the Shaakichiuwaanaan mining Project into operation, Patriot also aims to create sustainable value and benefits for host communities, shareholders, and employees.

Opportunities

In October 2020, the Government of Québec launched the Québec Plan for the Development of Critical and Strategic Minerals (Government of Québec, 2023a), which stems from the government's desire to promote prosperity in Québec's regions and the transition to a lower-carbon economy. Similarly, in March 2021, Natural Resources Canada published a list of Canada's critical minerals (NRC, 2021). This list identifies 31 minerals deemed critical to the long-term economic prosperity of Canada and its allies; minerals that can be produced in Canada, are essential to domestic industry and homeland security, and can fuel reliable and resilient supply chains to meet global demand. Both lists identify lithium as essential to technologies that reduce greenhouse gas emissions.

These national strategies are aligned with the global assessment of the lithium market. The European Union has sounded the alarm on critical raw material shortages, estimating that, to meet its climate neutrality target, demand for lithium could increase by 1 800% by 2030. If this timeframe is extended to 2050, the increase could reach 6 000%.

Benefits

During the development phase and when the Project goes into production, positive spin-offs will be created for local communities. From mineral exploration to production, the need for goods and services is many and varied. This creates business opportunities and jobs for local communities, and enables individuals and companies to develop new expertise, thereby contributing to the development of Québec's regions. In fact, since the exploration phase in 2023, the Shaakichiuwaanaan Project has employed more than 200 workers, at least 27 of them from First Nations communities, the majority of them Cree. This number continues to grow as exploration activities increase and Patriot prioritizes working with local Cree communities. On a broader scale, the Project will generate economic spin-offs in Québec and Canada and will contribute to the supply of spodumene concentrate to lithium hydroxide conversion plants and may potentially produce a tantalum concentrate as a by-product for the high-tech industry.

8. APPLICABLE PROVISIONS

The provisions of the Schedule to the *Physical Activities Regulations* (SOR/2019-285) describing the Project in whole or in part are as follows:

- 18(c): The construction, operation, decommissioning and closure of a new metalliferous mine, other than a rare earth elements mine, placer or uranium mine, with an ore production capacity of 5 000 tonnes or more per day.
- 18(d): The construction of a new metallurgical plant, other than a uranium mill, with an ore intake capacity of 5 000 tonnes or more per day.

The Project includes a new hybrid lithium mine and metallurgical plant with an average underground capacity of 5 500 tonnes per day (tpd), an open-pit capacity of 44 000 tpd and a maximum processing plant intake of 10 000 tpd.

The Project has the potential to affect the following components that fall under federal jurisdiction as referred to in section 2(1) of the IAA, namely:

- fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act;*
- aquatic species within the meaning of subsection 2(1) of the *Species at Risk Act;*
- migratory birds within the meaning of section 2(1) of the *Migratory Birds Convention Act 1994;*
- the Indigenous peoples of Canada, resulting from any change to
    - physical and cultural heritage,
    - the current use of lands and resources for traditional purposes, or
    - any structure, site or thing that is of historical, archaeological, paleontological or architectural significance;
- the health, social, or economic conditions of the Indigenous peoples of Canada.

The Project is not a component of a larger project that is not listed in the Project List.

It should also be noted that the Project involves the deposition of tailings and waste rock in fish habitat and as such, a modification of Schedule 2 of the *Metal Mining and Diamond Mining Effluent Regulations* (MMDMER) will likely be required for the Project.

9. ACTIVITIES, INFRASTRUCTURE, AND PHYSICAL WORKS

In September 2024, Patriot published a NI 43-101 Preliminary Economic Assessment (PEA) for the Shaakichiuwaanaan Project (Patriot, 2024). The mineral resource estimate for CV5 is 78.6 Mt at 1.43% lithium oxide (Li_2O) and 162 ppm tantalum oxide (Ta_2O_5) in the indicated category and 43.3 Mt at 1.25% Li_2O and 161 ppm Ta_2O_5 in the inferred category (at a cut-off of 0.40% Li_2O). This resource makes the CV5 spodumene pegmatite one of the ten largest lithium pegmatites in the world, as well as one of the largest tantalum pegmatites in the world.

9.1. Key Project infrastructure

The Project will include various infrastructures such as:

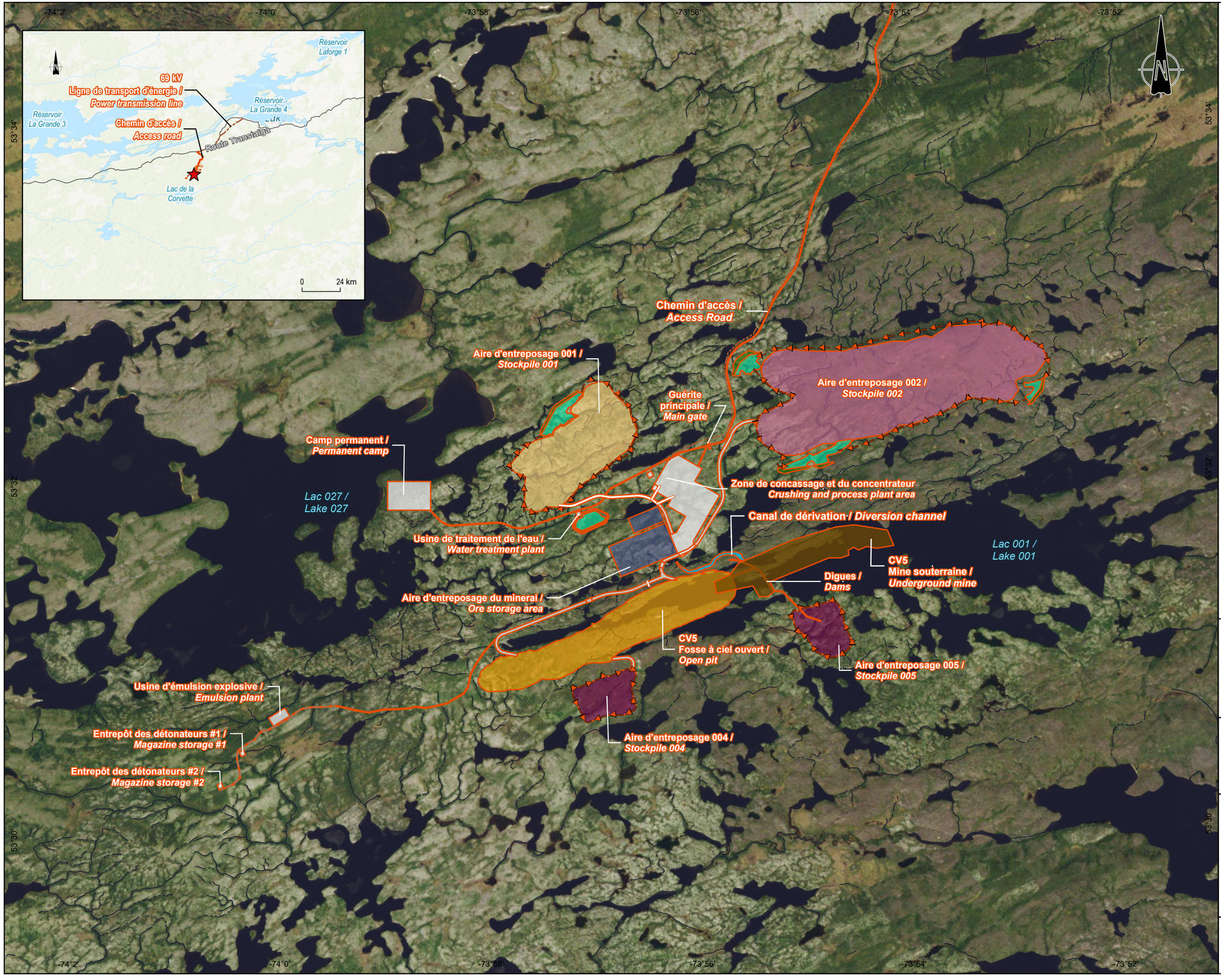
- an access road to the mine site from the Trans-Taiga Road;
- on site roads and culverts;
- a camp for workers during the construction and operation of the mine;
- a hybrid mine for mining the CV5 deposit[3] (an open pit and an underground mine);
- management areas for waste rock and mine tailings;
- an ore storage area;
- a dike to isolate the open pit from Lake 001, which partly covers it;
- an electrical transmission line;
- an electrical substation and on-site distribution network;
- an ore processing plant;
- a paste backfill plant;
- a water treatment plant;
- an explosive emulsion plant and storage magazines (2);
- a garage and other ancillary buildings;
- a fuel storage area and refuelling station.

Exploration infrastructure was developed prior to the works and activities described in this document. This infrastructure and its construction were subject to prior authorization and are not included in the scope of the environmental impact assessment. Existing infrastructure at the exploration site includes the construction and operations of an exploration camp at kilometre 270 of the Trans-Taiga Road and the construction of a four-season access road from the Trans-Taiga Road to the exploration site.

The mine will be developed in a series of phases, including site preparation, construction, operations and closure. The various components of the planned mining project are illustrated in Map 2.

[3] Other groups of spodumene-bearing pegmatite offer the potential for additional resources, notably CV13 and CV9 to the west and east of CV5 respectively.

Map 2: Overview of mining facilities



Composantes du projet projetées / *Projected Project Components*

- Ligne de transport d'énergie / *Power transmission line*
- Fossé / *Ditch*
- Chemin d'accès / *Access road*
- Chemin secondaire / *Secondary road*
- Chemin de halage / *Hauling road*
- Autre / *Other*
- Bassin / *Basin*
- Digue / *Dam*
- Aire d'entreposage du minerai / *Ore storage area*
- Aire d'entreposage (co-disposition stériles et résidus grossiers) /*Co-disposal stockpile (waste rock and tailings)*
- Halde à mort-terrain / *Overburden dump*
- Aire d'entreposage (résidus fins) / *Stockpile (middlings)*
- Canal de dérivation / *Diversion channel*
- Fosse à ciel ouvert / *Open-pit mine*
- Mine souterraine / *Underground mine*

Composantes de l'écosystème / *Ecosystem Components*

- Plan d'eau / *Waterbody*

Cours d'eau / *Watercourse*

- Intermittent / *Intermitent*
- Permanent / *Permanent*
- Permanent partiellement souterrain / *Partially underground permanent*
- Permanent souterrain / *Underground permanent*

Projet minier Shaakichiuwaanaan / *Shaakichiuwaanaan Mining Project*

Étude d'impact sur l'environnement et le milieu social / *Environmental and Social Impact Assessment*

Description initiale du projet / *Initial Project Description*

Carte 2 / *Map 2*
Aperçu des installations minières / *Overview of Mining Facilities*

Sources / Sources
AQréseau+, réseau routier, MERN, 2016
BDGA, 1M, MERN, 2014
Projet, 7535006-000000-D20-0002.dwg, BBA, 11 septembre 2024

0 400 800 m
UTM, fuseau 18, NAD83 (CSRS)

2025-02-07

Préparation / Prepared by : C. Martin
Dessin / Draw by : M. Leclair
Approbation / Approved by : C. Martin
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9.2. Workforce needs

The total workforce required for the Project will vary throughout its life cycle, ranging from approximately 500 workers during the construction phase to around 50 workers as operations wind down towards the end of the mine's life.

The construction phase is expected to employ a maximum of 500 workers. During the operation phase, the workforce will consist of approximately 230 workers. This number will begin to decrease starting in Year 17, reflecting the mine's transition towards the closure phase.

The following table presents the roles that will be required to support operations across key departments.

Table 13: Key roles supporting operations

Mine Operations		
♦ Mining Operation Superintendent ♦ Pit Foreman ♦ Shovel Operator ♦ Truck Operator	♦ Loader Operator ♦ Grader/Dozer Operator Water Truck/Excavator Operator ♦ Labourer (Lower-level)	♦ Driller ♦ Drill Helper ♦ Blaster ♦ Blaster Helper
Mine Maintenance		
♦ Maintenance Superintendent	♦ Maintenance Foreman	♦ Maintenance Planner ♦ Mechanic
Technical Services		
♦ Technical Services Superintendent ♦ Mining Engineer	♦ Project Engineer ♦ Geologist	♦ Sampler ♦ Surveyor
Tailings Operations		
♦ Tailings Foremen ♦ Tailings Planner	♦ Tailings Loader Operator ♦ Tailings Dozer Operator	♦ Tailings Excavator Operator ♦ Tailings Articulated Truck Operator

9.3. Site preparation phase

The first phase of the Project will be to prepare the site to receive the equipment and allow for the construction of the infrastructure, structures, and works. Site preparation activities that will be carried out with the help of subcontractors and their machinery is planned to include:

- tree clearing;
- access road construction;
- setting up of construction trailers and temporary sanitary infrastructures;
- development of temporary water management infrastructure;
- erection of equipment and material storage areas;
- transportation, circulation, and refueling of machinery;

- clearing and leveling of areas for future infrastructure, structures, and works.

In the area of the pit and underground mine, this work will be aimed at exposing the rock in preparation for the blasting work that will be required for the start of operations.

During this work, the topsoil and overburden will be stored in a temporary storage area so that it can be reused for future needs or restoration work.

9.4. Construction phase

Early works construction will rely primarily on subcontractors and will include the following major tasks:

- Construction of the mine site camp;
- Civil and earthworks contractor for bulk site clearing and grading;
- Electrical contractor for the installation of primary power and substation;
- Mechanical (mechanics, pipe fitters, riggers) contractor for infrastructure equipment installation (sewage and water treatment plants, facilities such as trailers, fuel farm, etc.).

Construction phase is planned to begin in Q1 2028 and last for 12 months.

9.5. Operations phase

The key activities planned for the operations phase include ore extraction, ore processing, waste rock and tailings storage, concentrate transport, and water management.

9.5.1. Ore extraction

The Project will be mined using a hybrid open pit and underground mining method.

Open pit

The open pit will be mined using a traditional drill and blast, truck and shovel mining method. The open-pit mine will begin with a year of construction, followed by 18 years of operation. The temporarily stockpiled materials will then be reprocessed in years 19 and 20.

At peak production, 16 Mt of material will be mined from the pit annually. To achieve this target, large 200 ton class trucks were selected to haul the waste. At peak production, nine haul trucks will be required to transport all the waste material. To load the large haul trucks, a large hydraulic front shovel with a 19 m^3 size bucket was selected.

The shovel will be able to load the trucks in five passes, which is in the industry's standard. One large front-end loader will support the large shovel for loading the trucks while it is on maintenance.

The open pit will be developed using a phased approach. The first phase of the pit was designed to be mined without having to drain any part of Lake 001, enabling mining operations to begin as soon as possible on dry land. The pit boundaries of the first phase are at least 100 m away from any large body of water.

Underground mine

Initial development and construction of the underground mine will begin in year one and continue for the first four years until full production is reached in year five. The life of the underground mine will be 24 years. The proposed underground mine includes two longhole mining methods. Transverse is used for the wider part of the body and longitudinal for the narrower dykes.

The mining steps are the same for both mining methods and are divided as follows:

1. Stope preparation
    1.1. Cable drilling and installation
    1.2. Slot raise drilling
    1.3. Production drilling
    1.4. Loading and blasting
2. Mucking
3. Backfilling
    3.1. Fence
    3.2. Plug pouring and cure
    3.3. Residual pouring and cure

The ventilation system envisioned for these mineral deposits will be a pull-type system, i.e., the fresh heated air will be pulled through the mine by using large primary surface exhaust fans. Propane mine air heaters will be located at each main fresh air intakes and used seasonally when required.

The primary system of the main mineral deposit will be designed and staged in such a manner that will allow for the re-use and movement of primary exhaust fans as the mineral deposit migrates further away from the portals. This will save on capital costs when the final system is built. This is illustrated and described in the “Ventilation Stages” section of the ventilation report.

The primary design of the south mineral deposit will also be a pull-type system, receiving air from the main mineral deposit, surface intake raises, and a small unheated quantity from the open pit. Level ventilation will be accomplished using auxiliary fans equipped ducted systems, with fans located at the level entries, pushing air to the extremities of the mineral deposit, and allowing the air to flow back into the main haulage and exhaust systems. The longer runs will require multiple inline fan installations in the duct.

9.5.2. Ore processing

Spodumene will be concentrated at the mine site, where an ore processing plant will be built to the north of the open pit and to the west of the underground mine. This plant will be fed by the ore extracted from both mines. The main treatment processes are as follows:

- crushing circuit (primary, secondary and tertiary crushing);
- storage in piles for the supply of crushed materials;

- separation in dense media (coarse, fine, and recrushed);
- magnetic separation and handling of the final product;
- diversion of fines, dewatering of intermediates, and handling;
- handling of final waste rock and mine tailings.

The ore from the open pit will be fed into the primary crushing circuit, which is equipped with a jaw crusher. The crushed ore is then sent to a screen for screening. At this stage, the coarse ore will be sent to the secondary crusher, while the finer ore will be sent directly to the tertiary crusher circuit, which will be closed and equipped with a screen and crusher. The product from the tertiary crushing circuit will be sent to a storage pile.

Material from the crushing circuit will be conveyed by conveyor to the top of a storage pile for crusher feed, acting as a buffer zone between the crushing circuit and the processing plant. Three vibrating feeders located in a tunnel under the storage pile will transport the crushed material via a conveyor to the ore processing plant.

At this stage of separation, there are three dense medium separation circuits: the dense medium coarse separation circuit (MDG): the Dense Fine Media (DFM) separation circuit; and the dense media reconciliation (MDR) circuit.

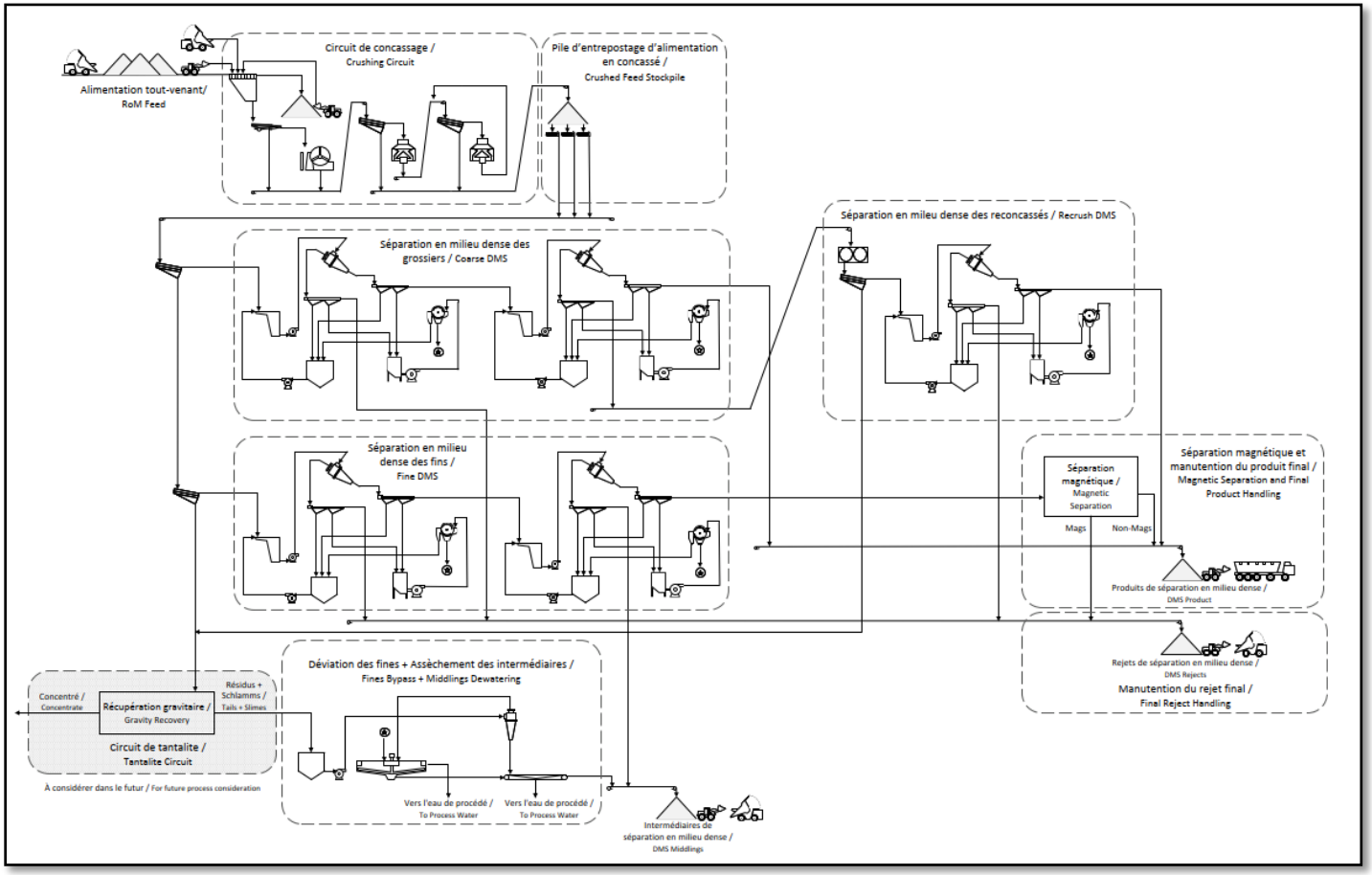


Figure 1: Simplified ore treatment process diagram

Following the dense media separation circuits, the magnetic separation circuit will be fed with a fraction of the products from the MDF separation circuit and part of the products from the MDR separation circuit. These materials will be exposed to a strong magnetic field, which will separate from the concentrate (final product) those materials whose mineral composition contains higher proportions of iron.

This magnetic circuit ensures that the final characteristics do not exceed the final iron impurity value. The magnetic fraction will be sent to the tailings of the processing plant. The non-magnetic fraction will be combined with some of the products of the MDG separation circuit to obtain a final concentrate, which will be loaded by a front-end loader into the spodumene concentrate transport trucks.

The residues will be directed to the fines diversion and intermediate dewatering circuit, where they will be routed to hydrocyclones[4]. The overflow from the hydrocyclones will be directed to a thickener. The overflow from the thickener will be directed to the process water. The remaining material from both the hydrocyclones and the thickener will be transported by conveyor to the storage pile for dense medium separation intermediates. This product will then be transported by a wheel loader to a mining truck for storage in a designated area. This product will contain sufficient lithium and tantalum to be processed at a later date if the Project develops further and a flotation and gravity recovery circuit is installed in the future.

Final process waste (tailings) comes from the MDG, MDF and MDR separation circuits and the magnetic separation circuit. These rejects are accumulated on a temporary storage pile and then moved by truck to stockpile 002.

9.5.3. Waste rock and tailings storage areas

The Project will produce approximately 179 Mt of waste rock and two types of tailings, totalling 75 Mt. These waste streams will be managed separately depending on their characteristics. Two permanent waste rock and tailings stockpiles (stockpile 001 and 002) are planned to be constructed north of the open pit, and two temporary overburden stockpiles (stockpile 004 and 005) are planned to be constructed south of the open pit.

Stockpile 001 will hold middlings, material with mineral content that could potentially be recovered in the future. The total production of middlings is expected to be 49.3 Mt. This material is suitable for use as paste backfill, and 27 Mt is planned to feed the paste backfill plant and be pumped underground to backfill the stopes. The remaining 22 Mt will remain on Stockpile 001. Stockpile 002 will be built to store all the non-economic waste rock coming from the pit, the underground mine and the DMS tailings.

The 100-ton trucks will be used mostly to transport consolidated fines and middlings from the processing plant to the stockpile. Articulated trucks will also be used to fill gaps when all 100-ton trucks are occupied in the pit, or when trucks are undergoing maintenance. The articulated truck will also be used for various tasks around the mine or when site conditions are not favourable for a 100-ton class truck. A wheel loader will be used to load the DMS tailings into the trucks.

[4] The simplified process diagram (Figure 1) shows a tantalite circuit that exceeds the current scope of the Project. This circuit could be added to the Project in the future if its economic and technical feasibility is demonstrated.

Geochemical characterization of the tailings and waste rock is currently underway and will identify the potential risks of leaching and acid generation. Based on geochemical results, the design of the foundation for the stockpiles will take into account the sealing measures to be applied to protect groundwater, as set out in Mining Industry Directive 019 (DIR019; MDDEP, 2012).

9.5.4. Ore management

The ore extracted from the open pit and underground mine will be temporarily stored adjacent to the ore processing plant. This planned storage area has a capacity of 6 Mt; it is a temporary space where the ore is deposited before being sent to be processed.

9.5.5. Concentrate transport

The Project will produce an average of 800 000 tonnes of spodumene concentrate per year. The Company plans to work closely with the Crees, the non-Indigenous people of the James Bay Region, and the Québec government to develop a transportation plan for the Project. A fleet of trucks will transport the concentrate from the mine site to the Matagami transfer yard.

The first section of the route, approximately 270 km long (one way), runs from the Project site to the intersection of the Trans-Taiga Road and the Billy-Diamond Highway. The second section of the route, approximately 544 km long, runs from the intersection along the Billy-Diamond Highway to the Matagami transhipment yard. When the trucks arrive in Matagami, the concentrate will be handled by the transshipment yard personnel and loaded into railcars for transport by train to processing sites.

The City of Matagami, the owner and operator of the transshipment facilities, has begun studies to assess the costs associated with adding the necessary rail tracks to accommodate a volume of 800,000 tpa of concentrate. It already holds the required permits for this type of development work. The City has also initiated discussions with CN to evaluate its capacity to transport the material south and the investments needed to upgrade the railway. The ongoing feasibility study will determine the types of services, equipment, and infrastructure required at the Matagami facilities. An agreement between the parties must be reached before proceeding with the investments.

9.5.6. Water management

All runoff water from projected infrastructure including roads, stockpiles, and the open pit will be collected through ditches and retention basins. Water meeting discharge criteria will be directly released to the environment, in the vicinity of the collection basin. Provisions will be made at each of the water collection basins to pump water to the water treatment plant if required.

Water requiring treatment prior to discharge to the environment will include both mine water and domestic wastewater. At this stage of the Project, it is assumed that each of these two types of wastewaters will generate a separate effluent and separate discharge to the environment.

Domestic wastewater will be produced by the sanitary infrastructure (toilets, showers, taps, etc.) of the workers' camp and other buildings on the mine site. This water will be directed to a domestic water treatment unit before being discharged into the environment in compliance with applicable standards and criteria.

Mine water will include mine water and surface water in contact with infrastructure, including mine waste storage areas (tailings and waste rock), overburden storage areas where applicable, and runoff from the ore storage area and the processing plant area.

A significant water management effort will also be required to keep the open pit dry. A dike will be constructed to isolate the open pit from Lake 001, into which it encroaches, and will limit the inflow of surface water into the open pit. The water from the lake will be diverted to the north of the open pit; the water diverted in this way will flow through the same original catchment area, ultimately joining Lake 027 to the west of the camp.

Mine and process water treatment will likely be required to ensure that mine effluent discharge complies with the Québec requirements of *Mining Industry Directive 019* (DIR019; MDDEP, 2012), and the federal standards of the *Metal and Diamond Mining Effluent Regulations* (SOR/2002-222).

Additional Environmental Discharge Objectives (EDOs) may be added to the above requirements. These EDOs will be defined as required by the Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) during the authorization process. Geochemical characterization and modelling will identify contaminants of potential concern and determine the type of mine water treatment that will need to be put in place to ensure effluent compliance.

Fish and fish habitat

The fish relocation plan will allocate a biologist to undertake the work and provide details regarding water discharge, fish capture methods, capture and relocation work areas, and reporting requirements, as summarized below:

a. This plan will incorporate provincial and federal guidance relating to the capture and relocation of fish, as applicable.

b. Procedures for decontamination of any equipment used in the capture and relocation of fish will be identified.

c. Prior to the implementation of capture and relocation activities, relocation (or release) sites will be identified, based on proximity, access, habitat suitability, and potential to be affected by construction-related disturbance.

d. Fish relocation will be led by a Professional Biologist with knowledge and experience in fish biology and ecology; fish/habitat relationships; biological monitoring; handling, collecting, and relocating fish; or other relevant experience.

e. Residual surface water associated with the diverted or dewatered habitat will be monitored and/or sampled for the presence of fish as soon as the waters are isolated.

f. The number of individuals observed in the affected area, the number of individuals relocated, the approximate size of individuals, the location of capture and release, any instances of injury or mortality, and the date and time of the collection and relocation will be noted and reported to regulatory authorities.

9.6. Closure phase

As detailed in the 2024 Preliminary Economic Assessment (PEA) for the Project, the main activities planned for the closure phase include:

- Carrying out a breach in the main dam, which will transform the pit into a body of water.
- Building a raised trench to prevent access to the pit.
- Revegetation of the waste rock and tailings storage sites by spreading a layer of overburden and then covering it with topsoil before hydroseeding and tree planting.
- Demolishing and removing all buildings and other surface infrastructure, including power lines, water conduits, etc.
- Levelling the process plant and camp areas, followed by spreading a layer of overburden, hydroseeding, and tree planting.
- Scarifying the roads built by Patriot as part of the mining activities, restoring the natural drainage and hydroseeding.
- Dismantling the industrial wastewater treatment installations when they are deemed no longer necessary.
- Carrying out a breach in ponds, levelling the dams, covering the surface with topsoil before hydroseeding, and tree planting.

Some of the restoration works will be carried out during the mining operations, while the remainder will be done at the end of the mine's life. Lastly, the implementation of the proposed environmental monitoring program will demonstrate that the restoration works have achieved their goals.

9.7. Ancillary activities

Certain infrastructures were developed prior to the work and activities described in this document. These infrastructures and their construction were subject to prior authorizations and are necessary for the development of the Shaakichiuwaanaan Mining Project, but are not part of the scope of its environmental impact assessment. These infrastructures are:

- the construction of an exploration camp at kilometre 270 of the Trans-Taiga Road;
- the construction of a four-season road from the Trans-Taiga Road to the Project site.

10. MAXIMUM PRODUCTION CAPACITY AND PRODUCTION PROCESS

The provisions of the Schedule to the *Physical Activities Regulations (SOR/2019-285)* describing the Project in whole or in part are as follows:

- 18(c): The construction, operation, decommissioning, and closure of a new metalliferous mine, other than a rare earth elements mine, placer or uranium mine, with an ore production capacity of 5 000 tonnes or more per day.
- 18(d): The construction of a new metallurgical plant, other than a uranium mill, with an ore intake capacity of 5 000 tonnes or more per day.

The mine's maximum production capacity is 50 Mt of material moved per year. This includes a maximum of 5 Mt of mineral resources to feed the processing plant, or approximately 10 000 t per day. The objective is to produce 800 kt of spodumene concentrate per year, or around 2 000 t per day at a grade of 5.5% Li_2O.

Table 14: Regulatory triggers

Regulation[1]	Production trigger	Proposed Shaakichiuwaanaan Project
18(c)	**New mine, ore production capacity of 5 000 tpd or more**	Hybrid spodumene mine with planned underground mining capacity of 5 500 tpd and open pit capacity of 44 000 tpd.
18(d)	**New processing plant, ore intake capacity of 5 000 tpd or more**	DMS processing plant with 10 000 tpd maximum intake

1 Schedule of the *Physical Activities Regulations.*

10.1. Mining capacity

The planned mining schedule was outlined in the 2024 PEA as detailed below.

Open Pit Mine

The open pit is mined over approximately 16 years reaching its maximum production rate of 16 Mtpa (44 000 tonnes per day) after 4 years. Once mining is complete, the remaining 4.5 Mt stockpile will be fed to the mill for 1.5 full years.

Underground Mine

The underground mine initial development will take approximately 16 months before the first stope is available for production. Production will then ramp-up over a period of 4 years to reach a maximum production rate of approximately 5 500 tonnes per day, or approximately 2 Mt per year.

The estimated mining schedule and resource extraction volumes at this stage of planning are summarized below:

- Construction: Year 1
- Open pit operations: Year 1–Year 16
- Underground operations: Year 3–Year 24
- Total ore from open pit: 48.7 Mt
- Total ore from underground: 38.5 Mt
- Total waste tonnes from pit: 180.6 Mt
- Total waste tonnes from underground: 6.3 Mt

10.2. Processing plant capacity

As detailed in the 2024 PEA Report, production ramp-up is planned to meet the following processing plant throughputs:

Year 1: 74% of Stage 1 processing plant capacity (1.85 Mt);

Year 2: 99% of Stage 1 processing plant capacity (2.48 Mt);

Year 3: 100% of Stage 1 and 74% of Stage 2 expansion (4.35 Mt);

Year 4: 100% of Stage 1 and 99% of Stage 2 expansion (4.98 Mt);

Year 5 onwards: 100% Production capacity (5.0 Mt).

11. PROJECT TIMETABLE

The main stages in completing the Shaakichiuwaanaan mining Project are summarized in Table 15.

Table 15: Main stages of the Project

Period	Completion stage
Second quarter (Q2) 2025	Feasibility study
Third quarter (Q3) 2025	Environmental impact assessment
First quarter (Q1) 2028 to forth quarter (Q4) 2028	Construction
Fourth quarter (Q4) 2028	Start of commissioning
2052	Mine closure
2052-2055	Restoration and rehabilitation of the site

12. POTENTIAL ALTERNATIVES

12.1. Alternatives to carrying out the Project

An assessment of Project alternatives and scenarios was undertaken primarily by the Preliminary Economic Assessment design team, resulting in a base case presented in the September 2024 report. The base case and associated activities are described in Section 9 of this Initial Project Description.

The environmental assessment process will include a further detailed assessment of alternatives based on the Federal guidelines for the assessment of alternatives for mine waste disposal. A prescreening assessment has taken place to identify potential waste rock deposition locations, which considered the following:

- Would the potential waste rock deposition locations sterilize a potential resource?
- Are the potential waste rock deposition locations situated on a claim or lease belonging to an external party?

- Are the potential waste rock deposition locations in a special-use area identified by the tallyman or his family?
- Are the potential waste rock deposition locations in a potentially significant environmental setting that may require protection/offsets?
- Are the potential waste rock deposition locations setting challenging topographically?
- Would access to the potential waste rock deposition locations require significant water course crossings?
- Are the potential waste rock deposition locations encroaching in the De Pontois River watershed?
- Do the potential waste rock deposition locations exceed an economically viable distance from the Project site?
- Are the potential waste rock deposition locations too small for the waste type?
- Would the potential waste rock deposition locations require a unique water management system (separate from mill)?

Four potential waste rock deposition scenarios have been identified in addition to the base case identified in the PEA, and will be brought forward for further assessment. This includes a scenario that reduces haulage costs, a scenario that avoids water completely, and two additional scenarios that passed the prescreening assessment.

A detailed assessment of power alternatives, including an evaluation of alternatives for electrical power generation, heating of on-site buildings and underground mine, and the electrification of mining equipment, will be undertaken.

A Feasibility Study is currently underway which will include further analysis of the possible Project alternatives, as well as trade-off studies that consider the economic, technical, social and environmental advantages and disadvantages of potential scenarios for:

- the location of mining infrastructure (ore processing plant and other buildings);
- the location of on-site roads;
- technologies and locations for managing mine waste (tailings and waste rock), including co-disposal;
- the extraction technology (i.e., open pit or underground extraction, or both);
- technology for transporting ore;
- the metallurgical process (flotation and tantalite circuit);
- the method for diverting water from Lake 001; and
- the transporting the concentrate.

12.2. Alternatives to the Project

Since the Project consists of mining a spodumene pegmatite deposit, there is no alternative to the Project. The only way to carry out the Project is to build a mine to extract the ore.

13. PROPOSED LOCATION

13.1. Geographical coordinates

Map 1 found in section 1 shows the regional location of the project.

The geographical coordinates of the deposit to be mined by the Project are 53.52236°N; 73.93131°W (latitude/longitude, NTS sheet 33H/12). The main planned mining infrastructures are concentrated within NTS sheet 33H/12.

The geographical scope of the environmental assessment will vary according to each aspect of the natural and human environments. The spatial boundaries, or study areas, will be determined by taking into account the various geographical scopes that correspond to each environmental component. This will allow an appropriate description of the various environmental components affected by the Project and the potential impacts on the environment.

13.2. Site map

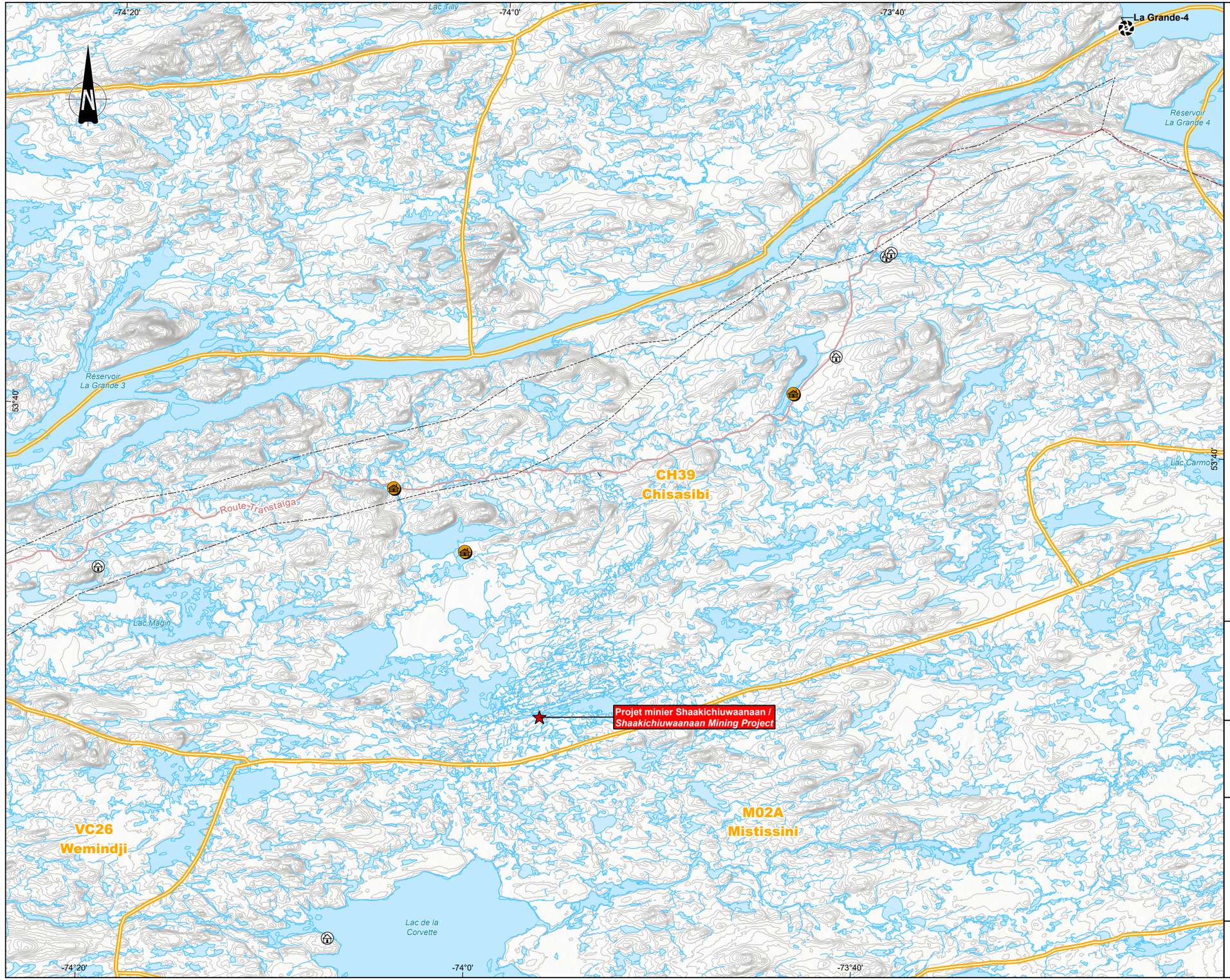
Map 3 shows the proposed development plan for the mine site. This plan shows the location of the main surface infrastructure, i.e., the open pit and storage areas for ore, waste rock and tailings, the building siting areas (including the ore processing plant), the access and traffic routes, and the main water management facilities. The plan also shows the existing surrounding infrastructure.

13.3. Official description of the site

The Project site is located within the territory of the Eeyou Istchee James Bay Regional Government, on Category III lands under the James Bay and Northern Quebec Agreement (JBNQA). These are public lands forming part of the domain of the State where Indigenous peoples have hunting, fishing, and trapping rights, in accordance with Section 24 of the JBNQA.

The Project site is located in a remote and isolated area. An all-weather road of approximately 20 km has been built on the site to link the deposit to the Trans-Taiga Road to facilitate exploration.

Map 3: Regional setting of the Project



Projet / *Project*

- Projet minier Shaakichiuwaanann / *Shaakichiuwaanann mining project*

Utilisation du territoire / *Land Use*

- Pourvoirie / *Outfitter*
- Bail de villégiature / *Lease*
- Camp autochtonee / *Indigenous camp*
- Aire de trappage / *Trapline area*

Titre minier/ *Mining title*

- Claim de Patriot Battery Metal inc. / *Patriot Battery Metal inc. claim*

Infrastructures / *Infrastructures*

- Centrale / *Power plant*
- Ligne de transport d'énergie / *Electric power transmission line*

Réseau routier / *Road Network*

- Route d'accès aux ressources / *Resource access route*

Projet minier Shaakichiuwaanaan /
Shaakichiuwaanaan Mining Project

Étude d'impact sur l'environnement et le milieu social /
Environmental and Social Impact Assessment

Description initiale du projet /
Initial Project Description

Carte 3 / *Map 3*
Localisation régionale du projet /
Regional Setting of the Project

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Bail de villégiature, MERN, mars 2021.txt

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UTM, fuseau 18, NAD83 (CSRS)

2025-01-30

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Approbation / Approved by : C. Martin
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13.4. Proximity to local communities

Radisson is the closest non-Indigenous community, located more than 250 km west of the Project.

There are no permanently, temporarily, or seasonally inhabited buildings or non-Indigenous hunting camps within 10 km of the Project study area. The closest inhabited non-Indigenous infrastructures are the Centrale La Grande-4 complex (including the worker's camp), located 31 km northeast from the Project study area, as well as the Mirage Aventure hunting and fishing outfitter, located 75 km northeast from the Project study area. Moreover, the La Grande-4 airport is located 18.6 km northeast from the Project study area.

A survey on land use and occupation will be carried out as part of the environmental impact study to have an exhaustive census of inhabited infrastructures.

13.5. Proximity to Indigenous communities

The largest Cree community in Eeyou Istchee, Chisasibi, is located approximately 330 km west of the Shaakichiuwaanaan Mine Project (Table 16). The infrastructures planned for the Project are also located entirely on the trapline of a member of the community of Chisasibi. Because of ancestral territories and the presence of traplines near the Project, two other Cree communities, Wemindji (330 km to the southwest) and Mistissini (350 km to the south), will also be included in the environmental assessment of the Project.

Table 16: First Nations and communities in the vicinity of the mining Project

First Nations/ Locality	Land status	Name of reserve/village	Affiliated Council/Government	Approximate distance from the Project
Native communities				
Cree Nation of Chisasibi	Land of the JBNQA	Chisasibi	Grand Council of the Crees/Cree Nation Government	330 km to the west
Wemindji Cree Nation	Land of the JBNQA	Wemindji	Grand Council of the Crees/Cree Nation Government	330 km to the southwest
Cree Nation of Mistissini	Land of the JBNQA	Mistissini	Grand Council of the Crees/Cree Nation Government	350 km to the south
Jamésie				
Locality of Radisson	Land of the JBNQA	n/a	n/a	250 km to the west

JBNQA: James Bay and Northern Quebec Agreement

There is one permanently, temporarily, or seasonally inhabited Indigenous camp within 10 km of the Project study area. This camp was recently set up 8 km west of the Project study area (about 10 km northwest of the planned mining site), in an area used by the Chisasibi community for traditional activities (trapline CH39). The other Indigenous camps found closest to the Project study area are located at kilometres 258 and 283 of the Trans-Taiga Road, respectively at 11 and 12.7 km of the Project study area.

A survey on land use and occupation will be carried out as part of the environmental impact study to have an exhaustive census of inhabited infrastructures.

13.6. Proximity to federal lands

No federal lands are located in the area of the Shaakichiuwaanaan mining project . No federal land will be used for the Project.

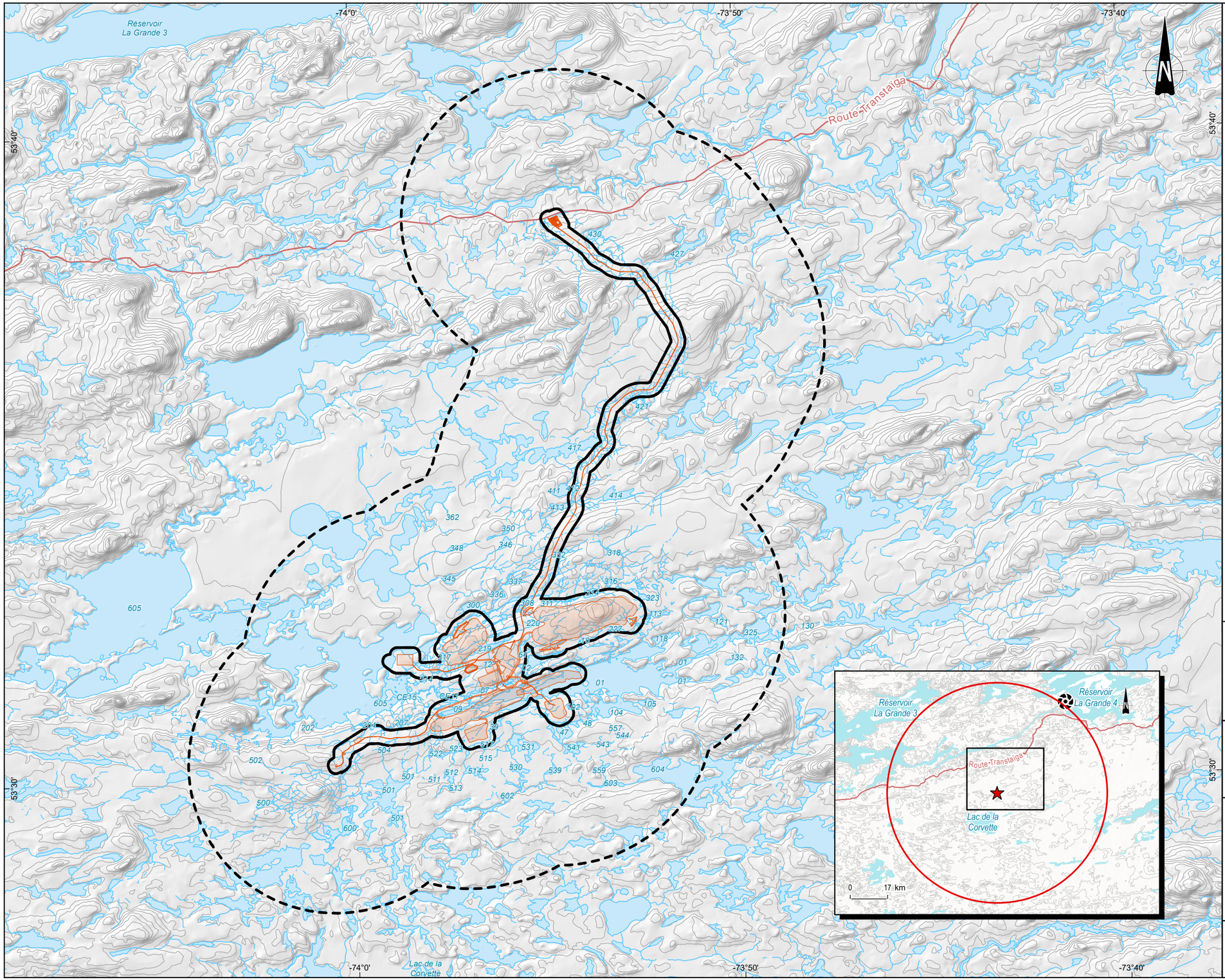
14. DESCRIPTION OF THE PHYSICAL AND BIOLOGICAL ENVIRONMENT

The following section provides an overview of regional environmental information, and a summary of baseline field studies that have taken place in the Project study area. Draft environmental reports and technical memos are provided in Appendix A. However it should be noted that baseline studies are ongoing and baseline reports will not be finalized until 2025.

Environmental studies of the physical and biological environment in the Project study area began in 2022, and are planned to continue until the spring of 2025. A preliminary study area was identified in 2022 and further refined in 2024 based on the September 2024 Preliminary Economic Assessment Report. Note that for wildlife components of federal interest, particularly species of precarious status, a regional study area will also be considered in order to assess the presence of potential habitats for these species within a 50 km radius centred on the project.

The 2024 Project study area is shown on Map 4.

Map 4: Project study areas



Zones d'étude / *Study Areas*

- Projet / *Project*
- Locale / *Local*
- Régionale / *Regional*

Composante du projet / *Project Components*

Projetées / *Projected*

- Contour des composantes / *Components contours*

Composantes de l'écosystème / *Ecosystem Components*

- Plan d'eau / *Waterbody*

Cours d'eau / *Watercourse*

- Intermittent / *Intermitent*
- Permanent / *Permanent*

Réseau routier

- Route d'accès aux ressources / *Resource access route*

Projet minier Shaakichiuwaanaan /
Shaakichiuwaanaan Mining Project

Étude d'impact sur l'environnement et le milieu social /
Environmental and Social Impact Assessment

Description initiale du projet /
Initial Project Description

Carte 4 / *Map 4*
Zones d'étude du projet / *Project Study Areas*

Sources / Sources
AQréseau+, réseau routier, MERN, 2016
BDGA, 1M, MERN, 2014
Projet, 7535006-000000-D20-0002.dwg, BBA, 9 septembre 2024

0 1,1 2,2 km
UTM, fuseau 18, NAD83 (CSRS)

2025-01-30

Préparation / Prepared by : M. Benoit
Dessin / Drawn by : M. Leclair
Approbation / Approved by : C. Martin
CA0001724_3318_des_initiale_prj_250130.aprx
CA0001724_3318_des_ini_c04_031_zetude_250130

14.1. Physical environment

14.1.1. Physiography and climate

The Project study area is located in the natural province of the Grande Rivière Hills (Li et al., 2019). This natural province is characterized by low-lying terrain with an undulating plain, followed inland by low hills. The geological bedrock of the Project study area consists mainly of amphibolite and metasediments, and various related rock units of the La Grande greenstone belt, as well as tonalite and gneiss at the regional level. Thin glacial deposits interspersed with rock outcrops cover the hills (MELCCFP, 2023). The study area lies at an altitude of between 260 and 350 m above sea level (BBA, 2022).

Pegmatite CV5 occurs in the Lac Guyer greenstone belt, considered part of the La Grande Rivière greenstone belt, and is dominated by volcanic and sedimentary rocks metamorphosed to amphibolite facies. The immediate host rocks dominant at CV5 are amphibolite, metasediments, and ultramafic rocks. CV5 is a spodumene-quartz-feldspar pegmatite, with accessory muscovite, smoky quartz, and occasional tourmaline, and consists of a main dyke about 8 to 130 m in true width, which is flanked by several subordinate dykes. To date, the CV5 mineralized corridor has been traced by drilling over a strike length of 4.35 km, and remains open at both ends, laterally and at depth, for most of its length.

The climate of the Grande Rivière Hills natural province, in which the study area is located, is characterized by cool summers and very cold winters (Environment Canada, 2023). The average annual temperature is around -4 °C, with an average summer temperature of 8.5 °C and an average winter temperature of -16.5 °C. Average annual precipitation ranges from less than 600 mm to 800 mm.

14.1.2. Regional hydrography

The Project site is located within the James Bay–Hudson Bay hydrographic region (region 09), the largest in Québec in terms of area.

Within this large region that drains the inland waters of northwestern Québec to the west, the Project is located in the heart of the Grande Rivière watershed (level 1). The Grande Rivière (or La Grande River) stretches for over 800 km, flowing from east to west, from its source on the Québec-Labrador border to its mouth in James Bay. Its watershed covers a vast area of over 200 000 km^2. In its natural state, this watershed covered an area of 97 643 km^2, but the La Grande complex hydroelectric project has resulted in a major detour of water into this watershed. Just south of the proposed the Rivière De Pontois watershed (level 2) drains an area of 19 142 km^2 to the west, joining the Grande Rivière watershed some 50 km from the Project site. The boundary between these two watersheds is located approximately 1 km south of the Project.

14.1.3. Hydrology studies

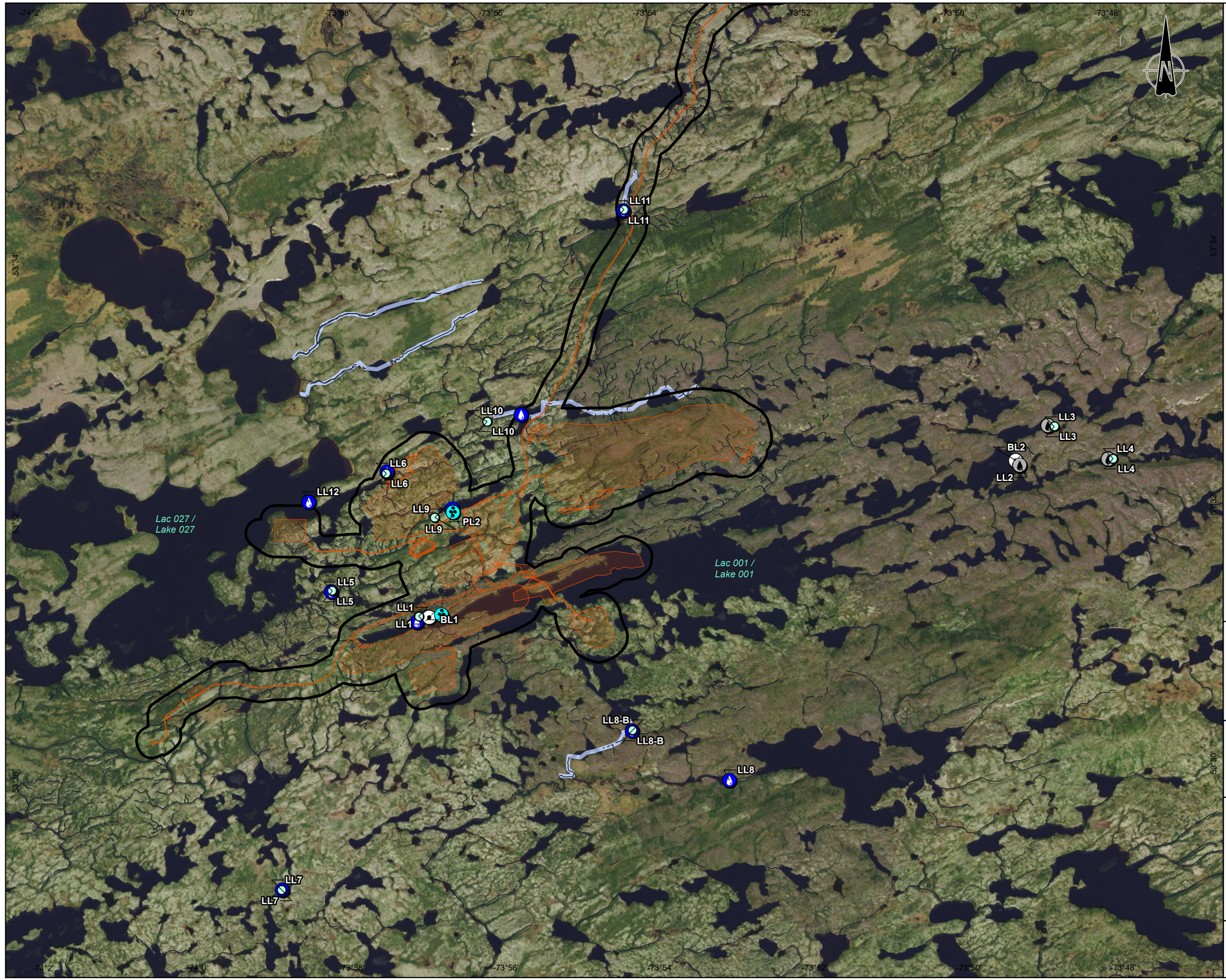
Locally, the Project study area is dotted with numerous bodies of water, some of which conflict with the planned Project infrastructure. This is particularly true of Lake 001, which will be affected by the construction of the planned open pit. The subsequent design phases of the Project will aim to minimize the encroachment of Project infrastructure into water in order to protect this resource as much as possible.

The hydrology baseline study includes the establishment of 11 hydrometric stations in lakes and streams within the study area. These stations have been visited three times a year since 2022: during spring freshet, low water, and fall freshet. Their location is provided in Map 5 in the next page.

Hydrometric stations included installation of water-level probes, which measure levels every 30 minutes, stream flow gauges to measure velocities at 20% and 80% of depth, and rain gauges to measure precipitation levels. Field work has also included cross-sections and waterline surveys of certain watercourses. Watercourse cross-sections were carried out every 100 metres within established creeks and streams in the study area. Map 6 presents the delimitation of watersheds within the Project study area.

Detailed bathymetry of Lake 001 was undertaken in 2022 and is presented in Map 7 below. Bathymetry of Lake 027 was done in 2024.

Map 5: Location of hydrometric stations



Zone d'étude du projet / *Project study area*

Hydrologie / *Hydrology*

Stations de surveillance hydrologique / *Hydrology Monitoring Stations*

- Baromètre / *Barometer*
- Pluviomètre / *Pluviometer*
- Sonde à niveau d'eau / *Water-level probe*
- Sonde à niveau d'eau retirée / *Water-level probe removed*
- Station de jaugeage / *Water gauging station*
- Section arpentée / *Surveyed section*

Composantes de l'écosystème / *Ecosystem Components*

- Plan d'eau / *Waterbody*

Cours d'eau / *Watercourse*

- Intermittent / *Intermitent*
- Permanent / *Permanent*
- Permanent partiellement souterrain / *Partially underground permanent*
- Permanent souterrain / *Underground permanent*

Projet minier Shaakichiuwaanaan / *Shaakichiuwaanaan Mining Project*

Étude d'impact sur l'environnement et le milieu social / *Environmental and Social Impact Assessment*

Description initiale du projet / *Initial Project Description*

Carte 5 / *Map 5*
Localisation des stations hydrométriques / *Location of Hydrometric Stations*

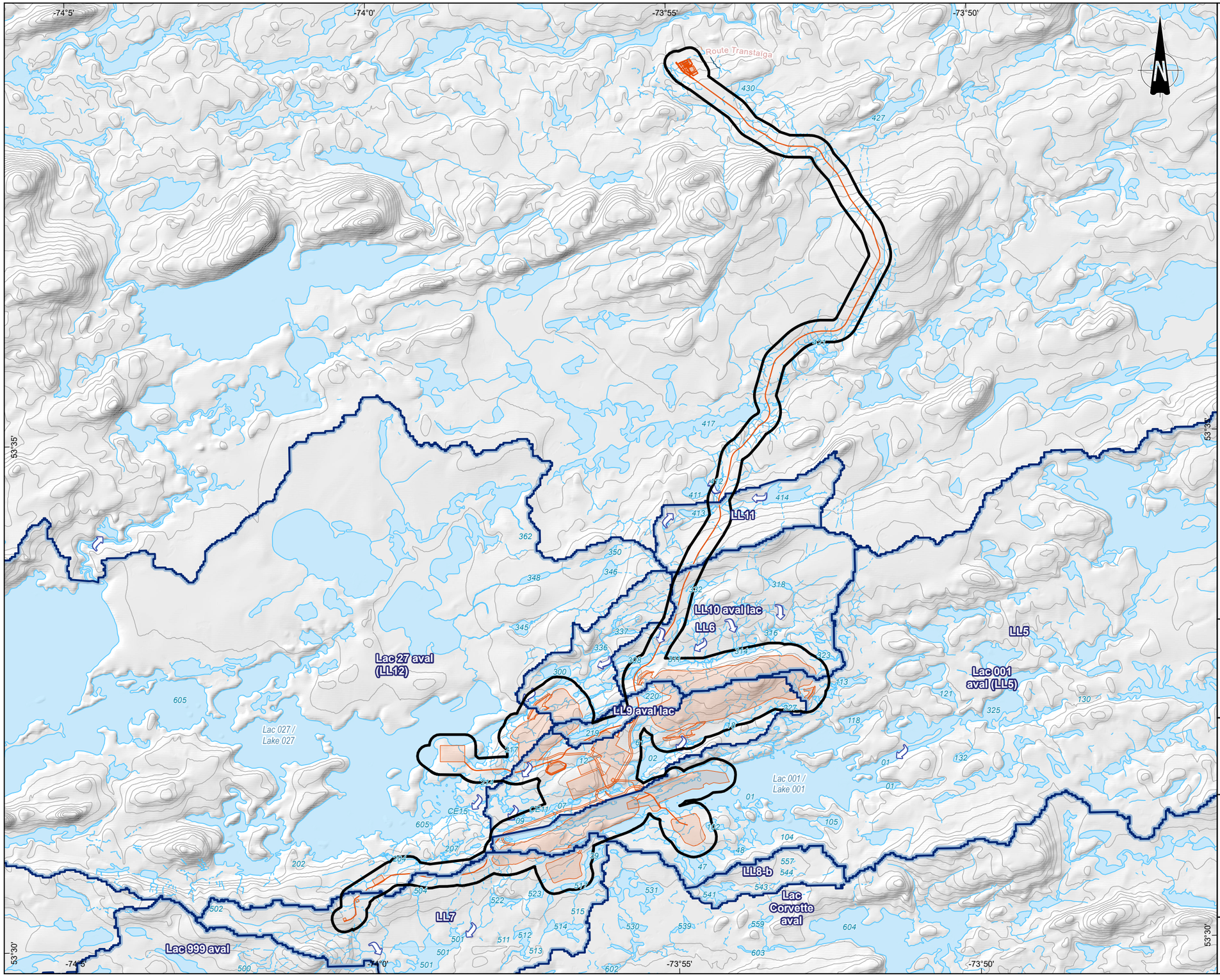
Sources / Sources
AQréseau+, réseau routier, MERN, 2016
BDGA, 1M, MERN, 2014
Projet, 7535006-000000-D20-0002.dwg, BBA, 11 septembre 2024

0 550 1 100 m
UTM, fuseau 18, NAD83 (CSRS)

2025-01-30

Préparation / Prepared by : C. Martin
Dessin / Draw by : M. Leclair
Approbation / Approved by : C. Martin
CA0001724_3318_des_initiale_prj_250130.aprx
CA0001724_3318_des_ini_c05_032_sta_hydrol_250130

Map 6: Local watersheds in the Project study area



Zone d'étude du projet / *Project Study Area*

Composantes du projet / *Project Components*

Projetées / *Projected*

Contour des composantes / *Components contours*

Hydrologie / *Hydrology*

Sens d'écoulement de l'eau / *Waterflow direction*

Bassin versant / *Watershed*

Composantes de l'écosystème / *Ecosystem Components*

Plan d'eau / *Waterbody*

Cours d'eau / *Watercourse*

Intermittent / *Intermitent*

Permanent / *Permanent*

Permanent partiellement souterrain / *Partially underground permanent*

Permanent souterrain / *Underground permanent*

Route d'accès aux ressources / *Resource access route*

Projet minier Shaakichiuwaanaan /
Shaakichiuwaanaan Mining Project

Étude d'impact sur l'environnement et le milieu social /
Environmental and Social Impact Assessment

Description initiale du projet /
Initial Project Description

Carte 6 / *Map 6*
Bassins versants locaux dans la zone d'étude du projet /
Local Watersheds in the Project Study Area

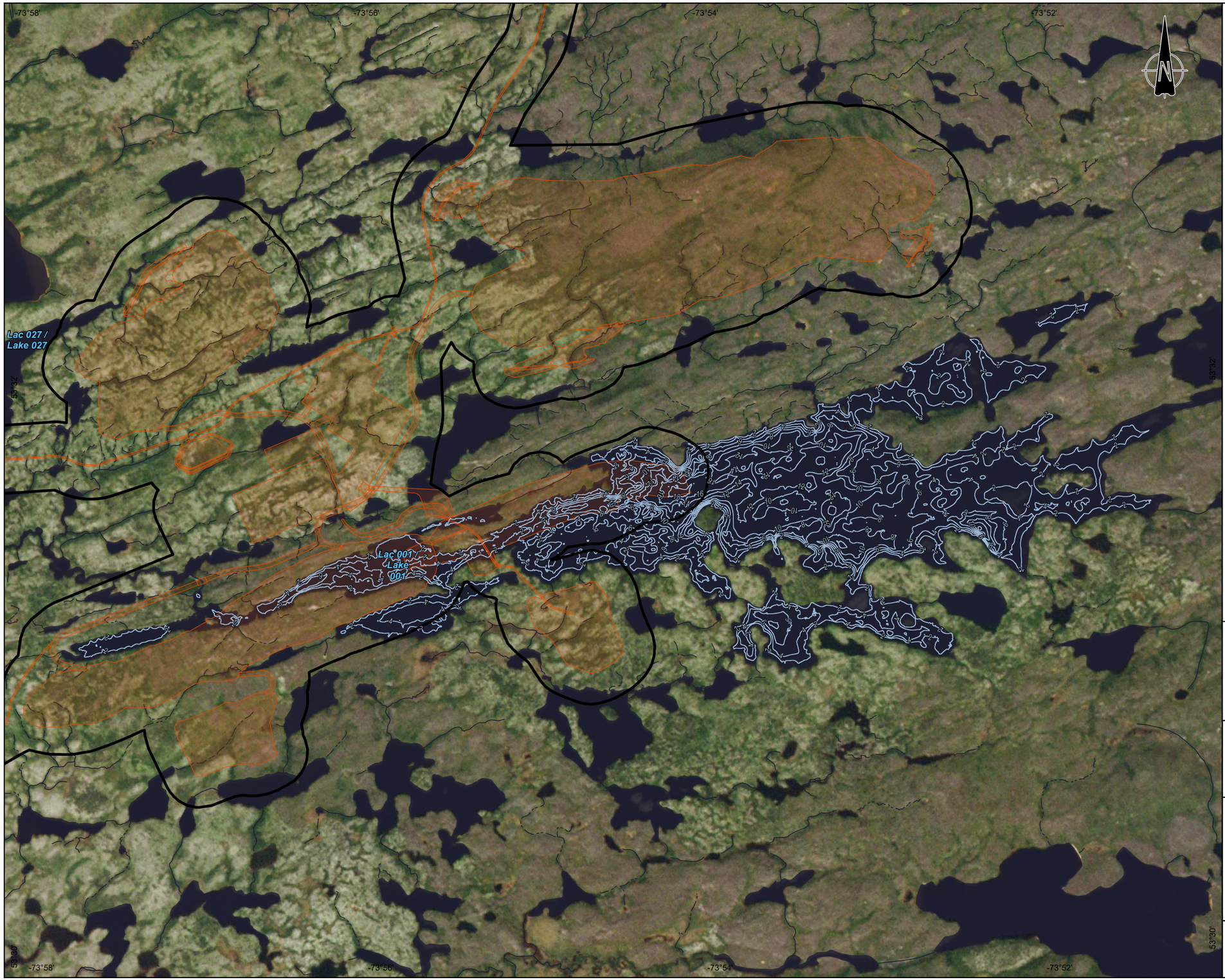
Sources / Sources
AQréseau+, réseau routier, MERN, 2016
BDGA, 1M, MERN, 2014
Projet, 7535006-000000-D20-0002.dwg, BBA, 9 septembre 2024

0 700 1 400 m
UTM, fuseau 18, NAD83 (CSRS)

2025-01-30

Préparation / Prepared by : M. Benoit
Dessin / Drawn by : M. Leclair
Approbation / Approved by : C. Martin
CA0001724_3318_des_initiale_prj_250130.aprx
CA0001724_3318_des_ini_c06_033_bversants_250130

Map 7: Bathymetry of Lake 001



Zone d'étude du projet / *Project study area*

Hydrographie / *Hydrography*

Isobathe (2 m) / *Isobath (2 m)*

Composantes du projet / *Project Components*

Projetées / *Projected*

Contour des composantes / *Components contours*

Composantes de l'écosystème / *Ecosystem Components*

Plan d'eau / *Waterbody*

Cours d'eau / *Watercourse*

Intermittent / *Intermitent*

Permanent / *Permanent*

Permanent partiellement souterrain / *Partially underground permanent*

Permanent souterrain / *Underground permanent*

Projet minier Shaakichiuwaanaan /
Shaakichiuwaanaan Mining Project

Étude d'impact sur l'environnement et le milieu social /
Environmental and Social Impact Assessment

Description initiale du projet /
Initial Project Description

Carte 7 / *Map 7*
Bathymétrie du lac 001 /
Bathymetry of Lake 001

Sources / Sources
AQréseau+, réseau routier, MERN, 2016
BDGA, 1M, MERN, 2014
Bathymétrie, Synergis 2023

0 250 500 m
UTM, fuseau 18, NAD83 (CSRS)

2025-01-30

Préparation / Prepared by : C. Martin
Dessin / Draw by : M. Leclair
Approbation / Approved by : C. Martin
CA0001724_3318_des_initiale_prj_250130.aprx
CA0001724_3318_des_ini_c07_034_bathy_l001_250130

14.1.4. Surface water quality

Water quality baseline studies included the establishment of 24 monitoring stations within the Project study area, which were sampled 6 times between 2022 and 2024. Sampling of sediment and benthic invertebrates was undertaken at the 24 water-quality monitoring stations in fall 2024. A report is currently being drafted to collate and analyze water quality, sediment and benthic invertebrate sampling results.

14.1.5. Hydrogeology

Hydrogeological information comes mainly from existing data and maps as well as field investigations carried out as part of the baseline hydrogeological study. Preliminary field work was carried out to determine the hydrogeological conditions of the rock aquifer in the sector of the CV5 Deposit. Exploratory drilling was carried out and observation wells were installed around the future CV5 Open Pit. Groundwater levels were measured and permeability tests were carried out in the observation wells and exploratory drilling.

Two groundwater sampling campaigns were carried out in six observation wells. The samples collected were analyzed in laboratory for the parameters recommended in Mining Industry Directive 019 (DIR019; MDDEP, 2012). Sampling was carried out according to the MELCCFP sampling procedure. Overburden over the study area is discontinuous and varies in thickness from 0 m to 20 m. It is composed of undifferentiated till and melt-out, or ablation till (glacial diamicton whose exact formation processes could not be determined). Lacustrine sediments are typically found at the bottom of waterbodies.

Bedrock is primarily composed of Amphibolite derived from basalt of Mesoarchean age and porphyritic granodiorites with potash feldspar phenocrysts of Neoarchean age. Bedrock unit is exposed at the surface at several locations over the study area. Groundwater levels measured in the rock aquifer vary between 0.1 m and 4 m deep from the ground surface. Water levels depths ranging between 6 m and 8 m were also observed in observation wells installed on high elevations. The permeability values obtained following the slug test done in boreholes vary between 1x10-6 and 1x10-9 m/s. The single and double packer tests, hydraulic testing using pneumatic shut-off valves, resulted in hydraulic conductivity values between 1x10-6 and 1x10-7 for the first 100 m of the bedrock and lower than 10-8 m/s for lower horizons. The geological and hydrogeological data available for the study area were used to develop a three-dimensional groundwater numerical model. The calibrated model was used to predict the volume of groundwater captured during the dewatering activities and to estimate the extent of drawdown over the study area. Preliminary open pit dewatering rates were evaluated for the three periods of mine operation (0–5, 5–10 and 10–15 years).

Additional work, such as long-term pumping test in the pit footprint with monitoring the drawdown in existing boreholes and packer testing, is still required to better characterize the permeability profile within the bedrock unit. The data from the additional work will be used in the future studies to refine the hydrogeological model currently being produced.

Results from the six groundwater samples taken in the observation wells located in the sector of the CV5 Open Pit showed concentrations respecting the MELCCFP criteria (drinking water and surface water resurgence) for the majority of the parameters analyzed. However, concentrations of arsenic and manganese exceeding the drinking water criteria were detected in some samples.

14.1.6. Geochemistry

Static testing

Static testing has been carried out on 74 waste rock samples, eight mineralized material samples and two DMS tailings samples (84 samples total).

Regarding Acid Rock Drainage ("ARD"), 20 waste rock samples (27%) showed ARD potential as per the *Guidelines on characterization of ore and mining residues* (MELCCFP, 2023) (previously MELCC, 2020). Twenty-eight waste rock samples (37.8%) were deemed leachable for arsenic according to the CTEU-9 leaching test. However, only four samples (5.4%) were classified as leachable according to the SPLP (Synthetic Precipitation Leaching Procedure) leaching test. Nineteen waste rock samples (25.7%) were classified as leachable for copper according to the CTEU-9 procedure. However, only nine samples (12.2%) were classified as leaching following the SPLP test. Inversely, eight waste rock samples (10.8%) were classified as leachable for zinc according to the SPLP procedure and only two samples (2.7%) were classified as leaching following the CTEU-9 test.

Moreover, the majority of waste rock samples and mineralized material samples were deemed leachable for aluminum according to both CTEU-9 and SPLP leaching tests. Two ultramafic samples were also classified as high risk according to the TCLP (Toxicity Characteristic Leaching Procedure) leaching test (arsenic concentration).

Kinetic testing

Kinetic testing for waste rock was carried out on 13 humidity cells (six amphibolite, three ultramafic, two metasediment, and two barren pegmatite). After 61 weeks, all humidity cell test results showed very low sulphate concentrations and therefore no ARD (Acid Rock Drainage) potential. Most metals showed low concentrations, with the exception of arsenic.

For all humidity cells, arsenic concentrations decreased from week 1 to week 61. At week 61, arsenic concentrations exceeded the MELCCFP resurgence in surface water criteria (0.34 mg/L) for two ultramafic samples and exceeded the *Metal and Diamond Mines Effluent Regulation* ("MDMER") limit (0.1 mg/L) for two ultramafic samples and one amphibolite sample. However, arsenic concentrations remained low for seven amphibolite samples, two metasediment samples, and two barren pegmatite samples.

Results from humidity cells' kinetic testing carried out on two mineralized material samples and two Dense Media Separation ("DMS") samples showed that those materials presented no ARD or Metal Leaching ("ML") potential.

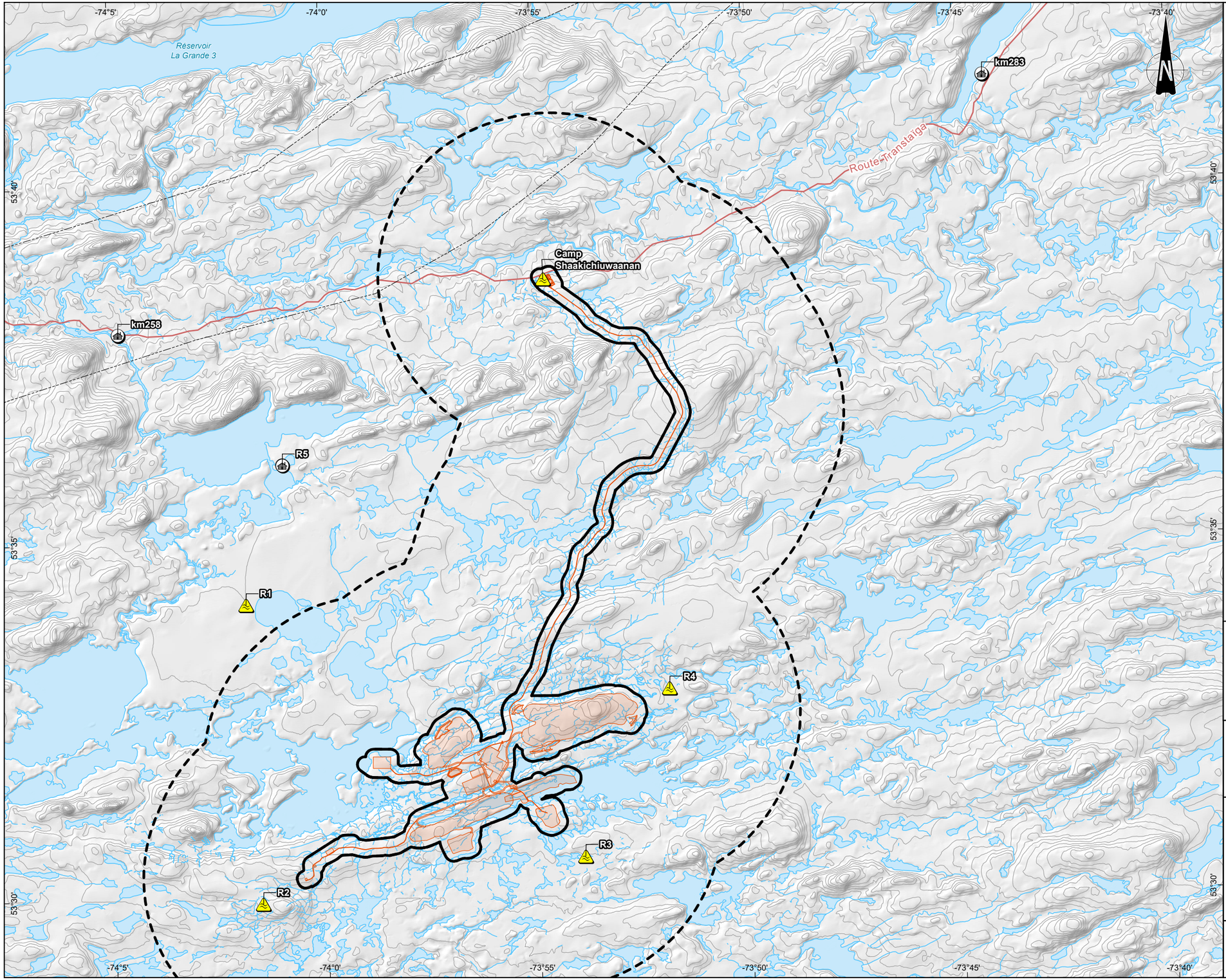
Modelling of arsenic concentrations in runoff from the waste rock piles was carried out and a report prepared by BBA and Vision Geochemistry Ltd. was issued in July 2024 (Thomassin, Rey, & Sullivan, 2024b). Modelling was done using pile characteristics, hydrological and hydrogeological data, as well as geochemical data. Average arsenic leaching rates measured in HCT (Humidity Cell Test) for week 30 to week 40 were used. It should be noted that average arsenic leaching rates have decreased by a third between week 40 and week 61 and therefore the results from the modelling are conservative.

Modelling has shown that storage of all types of waste rock in the same stockpiles could result in arsenic concentrations in percolation water exceeding the MELCCFP resurgence in surface water criteria. Segregation of ultramafic waste rocks is therefore recommended.

14.1.7. Sound conditions

Baseline sound condition studies were completed in October 2024 by field measurement using sound level meters at four identified locations within the study area, and at an additional two points on the Trans-Taiga Road that were identified through consultation with the tallyman's family as the closest potentially sensitive receptor to the planned Project. Sound level meters were installed for a 24-hour period to characterize existing noise sources. Map 8 below provides the location of the sound stations.

Map 8: Sound measurement stations (November 2024)



Zones d'étude / *Study Areas*

Projet / *Project*

Locale / *Local*

Composantes du projet / *Project Components*

Projetée / *Projected*

Contour des composantes / *Components contours*

Stations de mesure sonore / *Sound Measurement Stations*

Récepteur sensible (camp de chasse) / *Sensitive receptor (hunting camp)*

Récepteur, point sans usage sensible / *Receptor, point without sensitive use*

Composantes de l'écosystème / *Ecosystem Components*

Plan d'eau / *Waterbody*

Cours d'eau / *Watercourse*

Intermittent / *Intermitent*

Permanent / *Permanent*

Infrastructures / *Infrastructures*

Centrale / *Power plant*

Ligne de transport d'énergie / *Electric power transmission line*

Réseau routier / *Road Network*

Route d'accès aux ressources / *Resource access route*

Projet minier Shaakichiuwaanann / *Shaakichiuwaanann Mining Project*

Étude d'impact sur l'environnement et le milieu social / *Environmental and Social Impact Assessment*

Description initiale du projet / *Initial Project Description*

Carte 8 / *Map 8*
Stations de mesures sonores, novembre 2024 / *Sound Measurement Stations, November 2024*

Sources / Sources

AQréseau+, réseau routier, MERN, 2016
BDGA, 1M, MERN, 2014
Projet, 7535006-000000-D20-0002.dwg, BBA, 11 septembre 2024

0 1 2 km

UTM, fuseau 18, NAD83 (CSRS)

2025-01-30

Préparation / Prepared by : C. Martin
Dessin / Draw by : M. Leclair
Approbation / Approved by : C. Martin
CA0001724_3318_des_initiale_prj_250130.aprx
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14.1.8. Landscape and light study

A field inventory was carried out in 2024 to document the current light conditions in and around the study area to define intrusive light, sky clarity, and landscapes, and confirm the presence of existing light in the area.

Several intrusive light measurements were taken in the immediate areas affected by project developments and around potentially sensitive receptor points. Intrusive light is light emitted outside property boundaries or a reasonable buffer zone around facilities that may disturb the human environment (e.g., cottagers) or ecosystems (e.g., wetlands, watercourses, and lakes).

Sky clarity measurements will be taken at several stations. Sky clarity represents the quality of star visibility in a given area. It is influenced by nearby light emission, and is reduced in urban environments.

Photographs of the landscape (day and night) were also taken at several stations to document existing conditions and to be able to simulate future conditions associated with the Project. The nocturnal landscape is that which can be seen directly by people located near light-emitting facilities without necessarily being affected by reduced sky clarity or intrusive light.

14.2. Biological environment

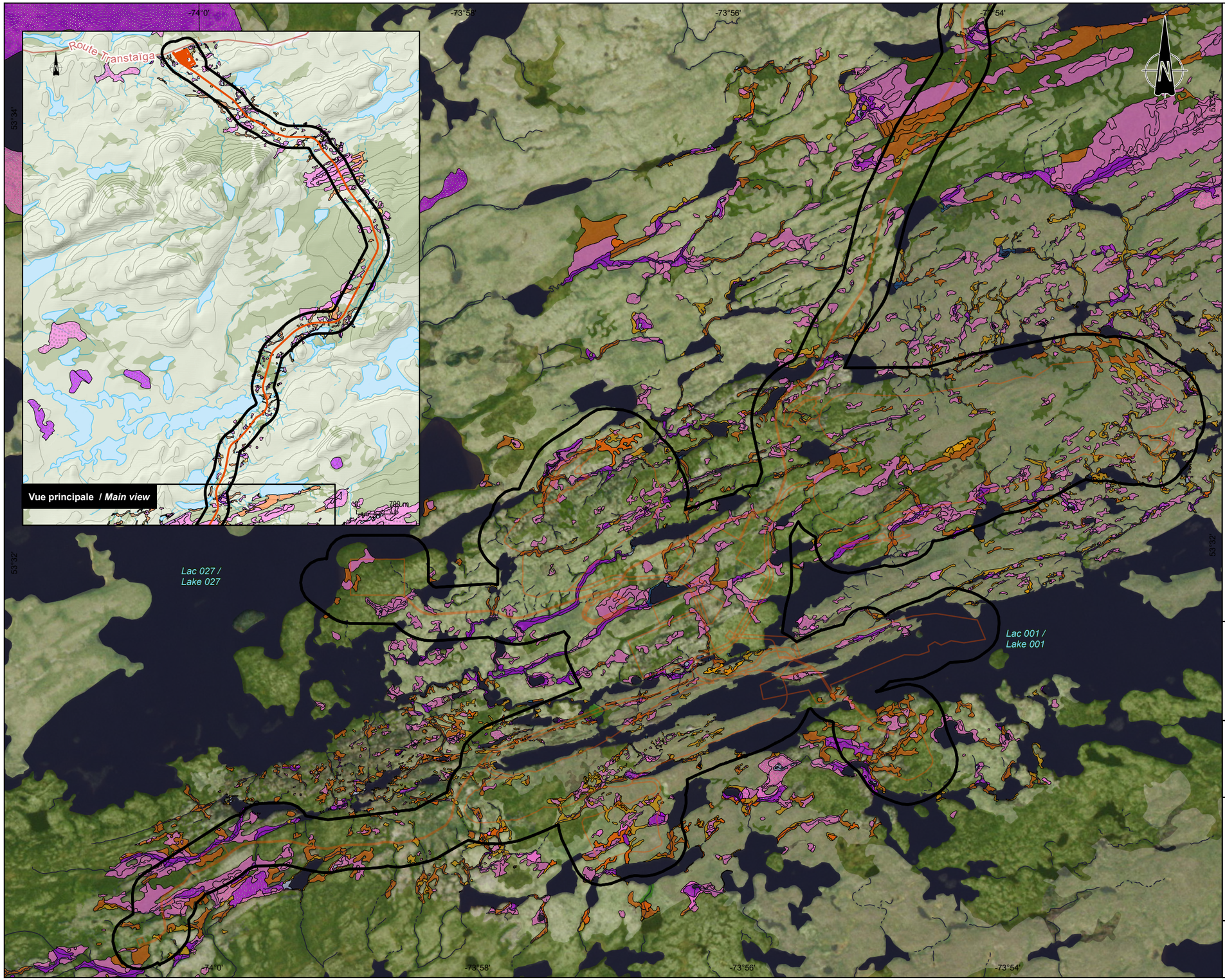
14.2.1. Vegetation and wetlands

The Project study area is located in the boreal vegetation zone, more specifically in the open boreal forest subzone, between latitudes 52° N and 55° N (Gouvernement du Québec, 2022a). This sub-zone is characterized by low-density forests of black spruce with lichen beds. This sector is also located in the lichen spruce bioclimatic domain, the Western Subdomain. Compared with the Eastern Subdomain, the Western Subdomain is characterized by a dry continental climate, where fire is more frequent and relief is less pronounced.

The Project study area is in the ecological region of the Eastmain and Sakami rivers (No. 7d). The regional landscape unit is Corvette Lake (No. 720), and the ecological district is Basses collines du lac Nochet (No. 720008). According to the ecoforestry map available online (Government of Québec, 2023b), the vegetation in the study area generally consists of lichen and moss spruce stands, with areas of lichen barrens. In addition, since fires have been burning in the area for the past 20 years, several burned areas are present. Wetlands are mainly represented by minerotrophic and ombrotrophic peat bogs.

Detailed mapping review and field inventories were carried out in 2023 and 2024 to characterize vegetation and wetlands, and to validate the presence of special-status species. Map 9 provides an overview of wetlands and ecotypes within the Project study area, as defined through field investigations.

Map 9: Wetlands and terrestrial vegetation



Zone d'étude du projet / *Project study area*

Composantes du projet / *Project Components*

Projetées / *Projected*

Contour des composantes / *Components contours*

Composantes de l'écosystème / *Ecosystem Components*

Milieux terrestres / *Terrestrial Environments*

Mixte / *Mixed-wood*

Régénération / *Regeneration*

Résineux / *Softwood*

Feuillu / *Deciduous*

Milieux humides et hydriques / *Wetlands and Hydrous Environnements*

Marécage arborescent / *Treed swamp*

Marécage arbustif / *Shrubby swamp*

Tourbière minérotrophe boisée / *Forested fen*

Tourbière minérotrophe ouverte / *Open fen*

Tourbière ombrotrophe boisée / *Treed bog*

Tourbière ombrotrophe ouverte / *Open bog*

Marais / *Marsh*

Eau peu profonde / *Shallow water*

Plan d'eau / *Waterbody*

Cours d'eau / *Watercourse*

Intermittent / *Intermitent*

Permanent / *Permanent*

Permanent partiellement souterrain / *Partially underground permanent*

Permanent souterrain / *Underground permanent*

Projet minier Shaakichiuwaanaan / *Shaakichiuwaanaan Mining Project*

Étude d'impact sur l'environnement et le milieu social / *Environmental and Social Impact Assessment*

Description initiale du projet / *Initial Project Description*

Carte 9 / *Map 9*
Milieux humides et végétation terrestre / *Wetlands and Terrestrial Vegetation*

Sources / Sources
AQréseau+, réseau routier, MERN, 2016
BDGA, 1M, MERN, 2014
Projet, 7535006-000000-D20-0002.dwg, BBA, 11 septembre 2024

0 400 800 m
UTM, fuseau 18, NAD83 (CSRS)

2025-01-30

Préparation / Prepared by : C. Martin
Dessin / Draw by : M. Leclair
Approbation / Approved by : C. Martin
CA0001724_3318_des_initiale_prj_250130.aprx
CA0001724_3318_des_ini_c09_036_mil_humide_250130

La précision des limites et les mesures montrées sur ce document ne doivent pas servir à des fins d'ingénierie ou de délimitation foncière. Aucune analyse foncière n'a été effectuée par un arpenteur-géomètre.

14.2.2. Fish and fish habitat

The James Bay region is characterized by countless bodies of water and streams that are home to a variety of aquatic life (CRNTBJ, 2010). Fish habitat in the region is ubiquitous and protected by federal and provincial legislation. In general, fish habitat in Nord-du-Québec is of very high quality, due to low levels of human disturbance. Fish populations in this region are generally slower-growing, longer-lived and have lower densities associated with lower ecosystem productivity. According to the Mirage Aventure outfitter website (2023), located about 75 km from the study area, the fish generally caught are northern pike (*Esox lucius*), brook trout (*Salvelinus fontinalis*), lake trout (*Salvelinus namaycus*) and walleye (*Sander sp.*).

Fishing activities were undertaken in the Project study area in 2022, 2023, and 2024. Efforts focused on habitat characterization, fish sampling, and water sampling for eDNA analysis to validate the presence of fish in water bodies where no fish were caught. The *Aquatic Environment Baseline Conditions - Aquatic Characterization - 2022 Field Campaigns report* was produced in June 2023 and is provided in Appendix A.

A total of ten species were caught or detected throughout the fish baseline study: northern pike, burbot (*Lota lota*), lake chub (*Couesius plumbus*), round whitefish (*Prosopium cylindraceum*), white sucker (*Catostomus commersonii*), longnose sucker (*Castostomus Catostomus*), pearl mullet (*Margariscus margarita*), eastern blacknose dace (*Rhinichthys atrtalutus*), brook trout, and lake trout. None of these species has special status.

During the inventories, particular attention was paid to the delineation of legal fish habitat in all permanent and intermittent water bodies and streams. *Under Canada's Fisheries Act* and Québec's *Loi sur la conservation et la mise en valeur de la faune*, any infrastructure encroaching on fish habitat and resulting in habitat loss must be compensated. The current Project development plan encroaches on fish habitat in certain areas, notably in the planned open pit where the diking of Lake 001 will result in a significant loss of habitat. Future design phases of the Project will aim to minimize infrastructure encroachment into fish habitat.

14.2.3. Herpetofauna

Herpetofauna inventories were undertaken as opportunistic surveys carried out during bird inventories at the same stations, in addition to active research in suitable habitats. According to the literature consulted, the study area is likely to be frequented by ten species of herpetofauna (six anurans, three urodeles, and one squamate). These are presented in Table 17 below. None of these species has any special status. Inventories were carried out in the spring and summer of 2024 to provide a picture of the communities in the study area.

Table 17: List of herpetofauna species likely to frequent the study area

Groupe	English name	Scientific name
Anurans	American Toad	*Anaxyrus americanus*
	Wood frog	*Lithobates sylvaticus*
	Northern frog	*Lithobates septentrionalis*
	Leopard frog	*Lithobates pipiens*
	Green frog	*Lithobates clamitans*
	Spring Peeper	*Pseudacris crucifer*
Urodeles	Two-line salamander	*Eurycea bislineata*
	Blue-spotted salamander	*Ambystoma laterale*
	Spotted salamander	*Ambystoma maculatum*
Squamates	Garter snake	*Thamnophis sirtalis*

Source : (AARQ, 2023), (CRNTBJ, 2010)

14.2.4. Bird studies

A number of bird inventories have taken place in the study area since 2023. A winter inventory was carried out in February 2023. During this survey, 12 species were inventoried, none of which had any special status. The summer campaign scheduled for the summer of 2023 was cancelled due to forest fires and postponed until 2024. Acoustic recording stations were nevertheless installed in 2023, enabling recordings to be made over a period of around 5 months. Acoustic recording stations were installed again in 2024 and a comprehensive ornithological survey took place over a period of 15 days in summer 2024.

As far as special-status species are concerned, 12 species could potentially frequent the study area on an annual basis. These are golden eagle (*Aquila chrysaetos*), harlequin duck (*Histrionicus histrionicus*), crossbill (*Loxia curvirostra percna*), common nighthawk (*Chordeiles minor*), peregrine falcon (*Falco peregrinus*), Barrow's goldeneye (*Bucephala islandica*), short-eared owl (*Asio flammeus*), bank swallow (*Riparia riparia*), olive-sided flycatcher (*Contopus cooperi*), bald eagle (*Haliaeetus leucocephalus*), rusty blackbird (*Euphagus carolinus*), and yellow rail (*Coturnicops noveboracensis*).

14.2.5. Micromammals

Based on their ranges, the study area is likely to be frequented by 15 species of small mammals (see Table 18). These include two special-status species, the rock vole (*Microtus chrotorrhinus*) and Cooper's lemming vole (*Synaptomys cooperi*). The latter are on the list of species likely to be designated as threatened or vulnerable (Gouvernement du Québec, 2023c). Surveys were carried out in 2023 and 747 specimens were captured.

Table 18: List of small mammal species likely to frequent the study area

Order	Species	Scientific name
Rodent	Gapper's red-backed vole	*Myodes gapperi*
	Field vole	*Microtus pennsylvanicus*
	Rock vole[1]	*Microtus chrotorrhinus*
	Phenacomys	*Phenacomys intermedius*
	Deer mouse	*Peromyscus maniculatus*
	Cooper's vole-lemming[1]	*Synaptomys cooperi*
	Boreal lemming vole	*Synaptomys borealis*
	Woodland jumping mouse[1]	*Napaeozapus insignis*
	Field jumping mouse	*Zapus hudsonius*
	Ungava lemming	*Dicrostonyx hudsonius*
Insectivore	Ashy shrew	*Sorex cinereus*
	Palustre shrew	*Sorex palustris*
	Arctic shrew	*Sorex arcticus*
	Pygmy shrew	*Sorex hoyi*
	Starry mole	*Condylura cristata*

1 : The study area is located to the north of the known range of these species.
Bold: Special-status species
Source : Desrosiers et coll., 2002

14.2.6. Small wildlife and fur-bearing animals

According to the *Commission sur les ressources naturelles et le territoire de la Baie-James* (CRNTBJ, 2010), 25 species of small wildlife and furbearers are thought to frequent the Project area. During inventories conducted in 2023, the presence of ten species was confirmed. These were red squirrel (*Tamiasciurus hudsonicus*), northern flying squirrel (*Glaucomys sabrinus*), snowshoe hare (*Lepus americanus*), river otter (*Lontra canadensis*), Canada lynx (*Lynx canadensis*), American marten (*Martes americana*), black bear (*Ursus americanus*), porcupine (*Erethizon dorsatum*), red fox (*Vulpes vulpes*), and American mink (*Neovison vison*). Tracks of weasel and mustelid have also been observed. To date, no species of small wildlife or furbearers with special status or evidence of the presence of such a species have been observed in the study area.

14.2.7. Large fauna

The Project study area is likely to be frequented by moose (*Alces alces*), as well as two caribou ecotypes: migratory caribou (*Rangifer tarandus*) and woodland caribou (*Rangifer tarandus caribou*). To validate the presence of these species, a literature review and aerial inventory were carried out.

From January 24 to 26, 2023, a helicopter-borne survey of large wildlife was carried out in the study area, covering a surface area of 1 470 km². The survey was carried out in the form of a series of manoeuvres at an average

altitude of around 200 m and a speed of 100 to 150 km/h. During the flyovers, the identification of trail networks and individuals was carried out by an experienced observer-navigator assisted by two observers at the rear of the aircraft. No caribou were observed during this survey. On January 28, 2023, members of the tallyman's family surveyed the area, concentrating particularly on points where individuals had been found on previous days.

As part of the work carried out by the Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP), 762 telemetric locations of migratory caribou have been recorded in the vicinity of the Project. These were recorded between 2003 and 2015, and none were reported after this period. During an aerial survey conducted by the Ministère de la Faune, des Forêts et des Parcs (MFFP) in 2020 covering the study area, no migratory caribou were recorded. No woodland caribou were observed in the study area during the 2020 MFFP survey, and no telemetry locations were recorded.

A total of 27 moose in 14 groups were counted during the January 2023 survey. Females accounted for 37% of the total, calves for 22% and males for 41%. The presence of the species was also confirmed during a field campaign to survey trail networks in March 2023.

14.2.8. Chiropterans

According to known bat ranges and past inventories in the Project area, the chiropteran species potentially present in the study area are the big brown bat (*Eptesicus fuscus*), little brown bat (*Myotis lucifugus*), northern bat (*Myotis septentrionalis*), hoary bat (*Lasiurus cinereus*), and red bat (*Lasiurus borealis*) (CRNTBJ, 2010). Of these species, only the big brown bat has no special status. The wooded environments in the study area may be used by certain species as maternity nests. Wetlands and wet environments may be used for feeding and hydration.

For chiropterans and the validation of their habitat, three forms of inventory were undertaken:

- Acoustic surveys to identify species on site using their ultrasound, were carried out at three different times: spring dispersal, breeding season, and autumn dispersal.
- A maternity roosting search identified potential locations for breeding and rearing young.
- A search for hibernacula was also done to validate the presence of winter shelters.

The installation of 16 acoustic stations throughout the study area took place in 2023 and was extended to 2024 due to forest fires. Inventories in spring and summer will also take place in 2025 to provide two full years of data. A full investigation for maternity roosts and hibernacula sites was carried out in 2023 over the entire study area.

14.3. Species at risk

Several special-status species are likely to frequent the study area. Wildlife species and their status in Canada, as defined by the *Species at Risk Act* (SARA), and in Québec, as defined by the *Act respecting threatened or vulnerable species*, are presented in Table 19. According to the database of the Centre de données sur le patrimoine naturel du Québec (CDPNQ), available via the interactive online map, no mention of fauna or flora is present within a 15 km radius of the Project (CDPNQ, 2023).

With regard to special-status plant species, the "Potentiel" tool (Gouvernement du Québec, 2023d) was used to draw up a preliminary list of plant species in a precarious situation that could potentially be present in the Nord-

du-Québec administrative region. Thus, 55 vascular plants are potentially present. With regard to fish, there are no potential or identified fish species at risk in the study area. The nearest aquatic species of special status, the yellow sturgeon, is found in the Grande Rivière, outside the study area.

This list will be refined according to the habitats present in the study area. No special-status plant species were observed during the surveys carried out in 2023 and 2024.

Table 19: Special-status wildlife species potentially present in the Project area

Group	English name	Scientific name	Status[1]		
			ARTVSQ[2]	COSEWIC[3]	SARA[4]
Avifauna	Golden eagle	*Aquila chrysaetos*	V	-	-
	Harlequin diver	*Histrionicus histrionicus*	V	SC	SC
	Crossbill	*Loxia curvirostra percna*	-	T	T
	Common Nighthawk	*Chordeiles minor*	LDTV	SC	SC
	Peregrine falcon anatum / tundrius	*Falco peregrinus*	V	-	-
	Barrow's goldeneye, Eastern pop.	*Bucephala islandica*	V	SC	SC
	Short-eared owl	*Asio flammeus*	LDTV	SC	T
	Bank swallow	*Riparia riparia*	-	T	T
	Olive-sided Flycatcher	*Contopus cooperi*	LDTV	SC	SC
	Bald Eagle	*Haliaeetus leucocephalus*	V	-	-
	Rusty Blackbird	*Euphagus carolinus*	LDTV	SC	SC
	Yellow rail	*Coturnicops noveboracensis*	T	SC	SC
Chiroptera	Little -brown bat	*Myotis lucifugus*	T	END	END
	Northern bat	*Myotis septentrionalis*	T	END	END
	Ashy bat	*Lasiurus cinereus*	LDTV	END	-
	Red bats	*Lasiurus borealis*	V	END	-
Micromammals	Rock vole	*Microtus chrotorrhinus*	LDTV	–	–
	Cooper's vole-lemming	*Synaptomys cooperi*	LDTV	–	–
Small wildlife, fur-bearing animals and/or large wildlife	Pygmy weasel	*Mustela nivalis*	LDTV	–	–
	Wolverine	*Gulo gulo*	T	SC	SC
Large fauna	Woodland caribou	*Rangifer tarandus caribou*	T	T	T
	Migratory caribou	*Rangifer tarandus*	–	END	END

1: END: Endangered; LDTV: Species likely to be designated threatened or vulnerable; SC: Special concern; T: Threatened; V: vulnerable
2: ARTVSQ: *Act respecting threatened or vulnerable species in Québec* (Government of Québec, 2023c)
3: COSEWIC: Committee on the Status of Endangered Wildlife in Canada (COSEWIC, 2023)
4: SARA: *Species at Risk Act* (Government of Canada, 2023)

15. HEALTH, SOCIAL, AND ECONOMIC CONTEXT

The following sections provide a brief description of the health, social, and economic context in which the Project is located.

15.1. Administrative context

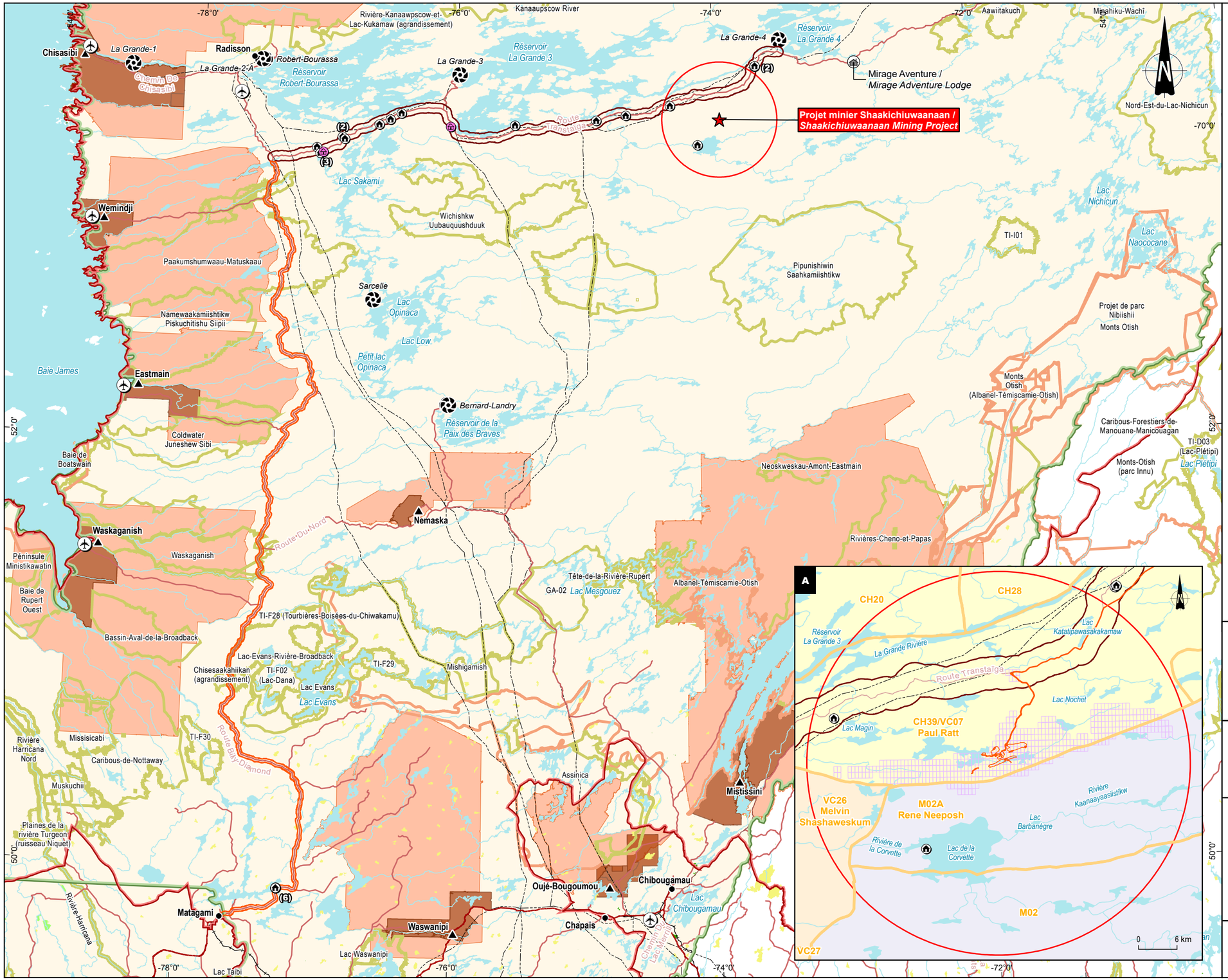
The Project is located in the Nord-du-Québec administrative region (number 10), which is divided into two territories: Eeyou Istchee James Bay and Nunavik (Kativik Regional Government) (Map 10). Located north of the 49th parallel, entirely on the Canadian Shield, the region covers just over half of Québec's total area and is the province's largest administrative region, covering 860 553 km^2 (MAMH, 2023).

The Project lies within the territory of the Eeyou Istchee James Bay Regional Government (EIJBRG), which since 2014 has replaced the Municipality of Baie-James. Nord-du-Québec is governed by the JBNQA and the *Agreement Concerning a New Relationship Between the Government of Quebec and the Crees of Quebec*, also known as the "Paix des Braves". The territorial regime introduced by the JBNQA is an important element of land use. It divides the territory into Category I, II and III lands.

The study area is located on Category III lands, which are provincial public lands. On these lands, the Cree Nation holds particular rights, including exclusive rights to trap fur-bearing animals, fish for certain aquatic species, and benefit from outfitting privileges. While these rights are exclusive to the Cree, the lands themselves are not under their full ownership or control; they remain accessible to other users in accordance with provincial regulations.

Additionally, both Indigenous and non-Indigenous people may hunt and fish on Category III lands, subject to regulatory requirements.

Map 10: Human environment inventory



Projet / *Project*

- Projet minier Shaakichiuwaanaan / *Shaakichiuwaanaan mining project*
- Composantes du projet projetées / *Projected project components*

Zones d'étude locales et régionale / *Locals and Regional Study Areas*

- 30 km autour du site minier / *30 km around the mine site*
- 2,5 km de chaque côté de la route Transtaïga / *2.5 km on each side of the Transtaïga road*
- 1 km de chaque côté de la route Billy-Diamond / *1 km either side of Billy-Diamond road*
- Zone d'étude régionale / *Regional study area*

Repères géographiques / *Geographical Landmarks*

- Communauté crie / *Cree community*
- Municipalité / *Municipality*

Utilisation du territoire / *Land Use*

- Pourvoirie / *Outfitter*
- Abri sommaire en forêt / *Summary shelter in the forest*
- Bail de villégiature / *Resort purpose*

Terrains de piégeage des communautés cries / *Cree Communities Traplines*

- Limite du terrain de trappe / *Trapline limit*

Communautés / *Cree Communities*

- Chisasibi
- Mistissini
- Wemindji

Infrastructures / *Infrastructures*

- Aéroport / *Airport*
- Centrale hydroélectrique / *Hydroelectric generating station*
- Ligne de transport d'énergie / *Electric power transmission line*

Limites / *Limits*

- Claim de Patriot Battery Metal inc. / *Patriot Battery Metal inc. claim*
- Territoire d'application du régime de protection de l'environnement et du milieu social (chap. 22, CBJNQ) / *Territory covered by the environmental and social protection regime (chap. 22, JBNQA)*

Terres de catégorie (CBJNQ) / *Category Lands (JBNQA)*

- Terres de catégorie I / *Category I lands*
- Terres de catégorie II / *Category II lands*
- Terres de catégorie III / *Category III lands*

Parcs et aires protégées / *Parks and Protected Areas*

- Projet de parc / *Proposed park*
- Refuge biologique / *Biological refuge*
- Projet d'aire protégée / *Proposed protected area*
- Forêt d'expérimentation / *Experimental forest*
- Écosystème forestier exceptionnel / *Exceptional forest ecosystem*

Projet minier Shaakichiuwaanaan / *Shaakichiuwaanaan Mining Project*

Étude d'impact sur l'environnement et le milieu social / *Environmental and Social Impact Assessment*

Description initiale du projet / *Initial Project Description*

Carte 10 / *Map 10*
Inventaire du milieu humain / *Human Environment Inventory*

Sources / Sources

SDA, 1/20 000, MERN, 2024-02 / CanVec+, 1/50 000, RNCan, 2014
CanVec, 1/250 000, RNCan, 2017 / BDGA, 1/1 000 000, MRN Québec, 2014
AQréseau+, réseau routier, MERN, 2024-03-01 / MTMD, Aéroports 2024-05-28
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Contraintes et exclusions, GESTIM, 2024-06-10 / Gestion des titres miniers GESTIM, 2024-06-10
Traités modernes autochtones, RNCan, 2023-05-09

2025-01-30

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15.2. Population, living conditions, and socioeconomic context

Cree communities

The traditional Cree territory (Eeyou Istchee) covers an area of over 400 000 km², including nine Cree communities totalling 5 586 km² and over three hundred traplines, or traditional family hunting and trapping grounds (CNG, 2022a). Its total population was 18 679 in 2021 (ISQ, 2022).

Located on Category III lands according to the JBNQA, the site of the Shaakichiuwaanaan Project does not contain any Indigenous land constituted as reserves, but it is divided into traplines occupied by Cree families. The closest three Cree communities to the Project are the Cree Nation of Chisasibi, 330 km to the west, the Cree Nation of Wemindji, 330 km to the southwest, and the Cree Nation of Mistissini, 350 km to the south (Map 10).

Cree Nation of Chisasibi

Chisasibi is a Cree word meaning “Great River”. Chisasibi is located on the south shore of Grande Rivière, on the James Bay coast, and is the second most northerly Cree community in Eeyou Istchee. Chisasibi is the largest Cree community in Eeyou Istchee, with a population of over 5 000 (CNG, 2022b). The near-majority of the population speaks Cree, while English is the second language. The site of the Shaakichiuwaanaan mining Project is located almost entirely within the traditional territory of the Cree Nation of Chisasibi.

Chisasibi’s commercial and administrative infrastructure, regional hospital, and educational facilities make it a leading community in Northern Québec. The community also boasts an airport with daily flights (Cree Nation of Chisasibi, 2023a).

The Centre hospitalier régional de Chisasibi provides primary and secondary care services to the population of Eeyou Istchee.

The Cree School Board operates four schools in the community of Chisasibi. Uupichinaasiun Elementary School (newly built and opened in 2024) offers instruction for Pre-K and Kindergarten in Cree and grades 1 and 2 in Cree, English, and French. The Waapinichikush Elementary School offers grades 3 to 6 in Cree, English and French. The Big River High School (formerly known as James Bay Eeyou High School) was built and opened in 2024 and offers instruction in all three languages. In addition, the community has the Sabtuan Adult Education Center, an adult learning and vocational school. The community has three daycares for pre-school aged children. In terms of schooling, in 2021, for the population aged 15 and over in private households, 67.3% of men and 52.9% of women had no high school diploma or equivalency certificate in Chisasibi, a proportion almost three times higher than in Québec (men 22.6% and women 18.6%) and Canada (men 19.6% and women 16.6%) (Statistics Canada, 2023).

In 2020, the median total income of people aged 15 and over in Chisasibi was $43,200 ($37,200 for men and $50,000 for women), while the average total income was $48,800 ($43,240 for men and $54,100 for women) (Statistics Canada, 2023). We note that the income gap may be related to the higher level of education among women in the community.

Wemindji Cree Nation

The second Cree community located closest to the Project (330 km to the west) is Wemindji. Wemindji is located at the mouth of the Maquatua River and is the third most northerly community on the James Bay coast. Wemindji is a Cree word meaning “painted hills” or “red ochre mountain”. Its population was 1 562 in 2021 (Statistics Canada, 2023). The first official language spoken is English, although the language most spoken at home is Cree (Statistics Canada, 2023).

The Cree Nation of Wemindji is served by the Wemindji Miyupimaatisiiun Community Centre (CMC) for health services.

Wemindji has an elementary school (Joy Ottereyes Rainbow Memorial) and a high school (Maquatua Eeyou). In terms of education, in 2021, for the population aged 15 and over in private households, 52.8% of men and 46% of women in Wemindji had no high school diploma or equivalency certificate, a proportion almost three times higher than in Québec (men 22.6% and women 18.6%) and Canada (men 19.6% and women 16.6%) (Statistics Canada, 2023).

In 2020, the median total income of people aged 15 and over in Wemindji was $42,800 ($37,200 for men and $50,000 for women), while the average total income was $46,000 ($41,000 for men and $50,600 for women) (Statistics Canada, 2023).

Cree Nation of Mistissini

Mistissini is one of the Cree communities located inland, about 350 km south of the Project on the shores of Lake Mistissini. Mistissini is a Cree word meaning "big rock". In 2021, the population of Mistissini was 3 190 (Statistics Canada, 2023). The first official language spoken is English, among both men and women, while the language most spoken at home is Cree (Statistics Canada, 2023).

The Cree Nation of Mistissini is served by the Centre Miyupimaatisiiun Communautaire (CMC) de Mistissini, which offers medical and other services.

École Voyageur Memorial is located in the centre of the Cree community of Mistissini, and comprises three buildings (a high school, an elementary school, and a preschool). There are also two adult education centres, known as sabtuans, located next to the high school and offering courses in Cree culture. With regard to schooling, in 2021, for the population aged 15 and over in private households, 59.7% of men and 57.4% of women in Mistissini had no high school diploma or equivalency certificate, a proportion almost three times higher than in Québec (men 22.6% and women 18.6%) and Canada (men 19.6% and women 16.6%) (Statistics Canada, 2023).

In 2020, the median total income of people aged 15 and over in Mistissini was $43,200 ($40,800 for men and $46,000 for women), while the average total income was $51,200 ($49,900 for men and $52,400 for women) (Statistics Canada, 2023).

James Bay Region

Town of Radisson

The community of Radisson, in the James Bay territory of Eeyou Istchee, is one of the few non-Indigenous communities in Québec located beyond the 53rd parallel, at the northern end of the paved portion of the Billy-Diamond Highway (Map 7). In 2021, it had a population of just over 200 (Statistics Canada, 2023). The first official language spoken is French. The language most spoken at home is also French (Statistics Canada, 2023). The community of Radisson is located 250 km west of the Project.

Radisson is served primarily by the Centre régional de santé et de services sociaux de la Baie-James (CRSSSBJ), which provides health and social services to the population of the Nord-du-Québec health and social services region.

Under the responsibility of the Centre de services scolaires de la Baie-James, École Jacques-Rousseau is located in the community of Radisson. École Jacques-Rousseau offers educational services for young people from preschool to the fifth year of high school (CSSBJ, 2023).

Statistics on income in 2020 for the population aged 15 and over in private households in Radisson are not available and must remain confidential under the provisions of the Statistics Act, as only 150 people were counted.

Radisson's transportation infrastructure includes roads that connect the community to other urban centres in the region, such as Route 167, which leads to Chibougamau. In addition, Radisson has an airport that mainly serves air travel related to industrial projects. In terms of water supply and sanitation, the community has networks adapted to the needs of its population, although these are relatively modest compared to larger cities. Radisson is also a nerve centre for the hydroelectric industry, with the presence of the Radisson hydroelectric plant, which is part of the Baie-James hydroelectric complex. This energy infrastructure represents a key element of the local economy and is accompanied by various technical installations and an interconnected electrical network. The commercial sector, although limited, includes essential services such as grocery stores, retail businesses and administrative services.

Due to the small size of the Radisson community, detailed economic data is not available. However, its region of belonging, the Nord-du-Québec region, is characterized by a $5 billion gross domestic product (GDP) which represents 1.2% of the GDP of all Québec Province. Compared to the 2016 GDP ($3.9 billion), the region's GDP grew by 27.2%, which is higher than the growth recorded for all of Québec (15.7%) for the same period (ISQ, 2021).

15.3. Sanitary conditions, human health, and well-being

This subsection presents preliminary information on sanitary conditions, human health, and the well-being of populations in the region of the Project. Given the limitations in the availability of data specific to the area surrounding the Project, an understanding of the health context will be developed in consultation with regional organizations specializing in these issues, so as to highlight the more specific characteristics of the environment.

A more in-depth analysis of access to health services and the issues involved will be carried out through field surveys and interviews as part of the ongoing EIA. The effects of the Project on this access will also be studied, and management measures proposed accordingly.

Basic information on vulnerable population groups (ACS+) potentially affected by the Project will be supplemented by research into new information on the health context, including demographic profile, health status of the population, access to health and social care centres, health-related behaviors, types of stress experienced, and existence of sensitive receptors in the vicinity.

15.3.1. Access to health services

Cree communities

Cree Nation of Chisasibi

The Chisasibi Regional Hospital Centre provides primary and secondary care services to the population of Eeyou Istchee. The medical team includes 7 physicians and 27 registered nurses. The hospital has 29 beds, 17 of which are for acute care (5 pediatric), 9 for chronic care and 3 for respite care. The hemodialysis department has 9 treatment stations. A partial pre-dialysis program is offered 2 days a week.

The Chisasibi Regional Hospital has a modern laboratory, radiology, archives, liaison, physiotherapy, and nutrition services, as well as a dental clinic.

Specialist services are provided in partnership with the McGill Réseau Universitaire Intégré de Santé et Services Sociaux (RUISSS). Through this partnership, specialists from the McGill University Health Centre (MUHC), Jewish General Hospital, St. Mary's Hospital Centre, and Douglas Hospital visit the Chisasibi Regional Hospital Centre and provide telemedicine services in obstetrics, surgery, pediatrics, orthopedics, internal medicine, ophthalmology, otolaryngology, and psychiatry.

The hospital manages regional infection prevention and control programs, as well as telemedicine.

Wemindji Cree Nation

The Cree Nation of Wemindji is served by the Wemindji Miyupimaatisiiun Community Center (MCC). The CMC provides front-line services and represents the community presence of the CCSSSBJ. The Wemindji CMC includes a walk-in clinic as well as community health clinics for different age groups.

Wemindji CMC has five permanent employees and two additional staff for the Home and Community Care Program. The team for the Awash (children aged 0 to 9 and pregnant women) and Uschinîchisû (young people aged 10 to 29) age groups suffers from a staff shortage; two of the three Awash nurse positions remained vacant throughout the year in 2022, as did the school-based position.

Cree Nation of Mistissini

The Cree Nation of Mistissini is served by the Centre Miyupimaatisiiun Communautaire (CMC) de Mistissini, which offers medical services (cancer screening, occupational therapy, speech therapy, physiotherapy, etc.) and other more specific services for children, young people, and adults. The centre also offers medical imaging (in partnership with the Chisasibi hospital), pharmacy, mental health, paratransit, and dental services. Services are offered in French, English, and Cree.

A multiservice day centre also serves the territory, providing a space for gathering, healing, and learning for people in isolation, seniors, adults with special needs, and people with mental health issues. It also offers youth services, home and community care, and paramedical services.

A new Eeyou Istchee youth rehabilitation centre also opened in Mistissini in 2020. It offers a place of residence for young people who need intensive out-of-home interventions for substance abuse, trauma, and other serious problems.

However, Mistissini faces the same challenges as some other communities in Eeyou Istchee, namely a lack of personnel, which has resulted in a reduction in the services offered on the territory, generating difficulties in accessing services for the population. For example, hours at the CMC have been reduced indefinitely. The walk-in clinic is open from 9 a.m. to 5 p.m., Monday to Friday, and outside these hours, only life-threatening emergencies are treated by an on-call nurse.

James Bay Region

Radisson

As discussed earlier, Radisson is served primarily by the Centre régional de santé et de services sociaux de la Baie-James (CRSSSBJ), which provides health and social services to the population of the Nord-du-Québec health and social services region. The territory of this CRSSS includes that of James Bay and covers an area of 350 000 km^2.

CRSSSBJ relies on the participation of five health centres whose management is grouped into two sectors: the eastern sector and the western sector, in order to reach the population and users throughout the territory and ensure a local service offer. Radisson is in the western sector.

In Radisson, the Centre de santé Radisson (CLSC) primarily serves the population's health needs, but residents regularly consult a doctor at the Centre hospitalier régional de Chisasibi, for specialist visits, radiological examinations, and clinical and medical observations.

15.3.2. Impact of forest fires

In view of the particular situation of forest fires in Québec in 2023, the Public Health Department of the CRSSS de la Baie-James developed a questionnaire with the intention of better understanding the impacts, basic needs, and health status of the population in order to better adapt its interventions. The survey, which was voluntary, confidential, and anonymous, was aimed at people aged 14 and over. It was carried out among the Jamesian population between June 20 and August 22, 2023. A total of 775 people responded to the survey.

The main highlights of this survey are (Direction de la Santé publique, 2023):

- At the time of completing the questionnaire, 23% of respondents perceived their mental health as fair or poor.
- Whether they had been evacuated or not, respondents reported similar levels of damage to their mental health, the most important being stress and sleep problems.
- Of those respondents who reported using alcohol, tobacco, or drugs, 18% said they had increased their alcohol consumption, 26% their tobacco consumption, and 10% their drug consumption.
- More than half of respondents said they had significantly increased their screen time.
- Of the respondents, 80% said they were satisfied with the recommendations issued by public health regarding air quality indication and outdoor activities that can be carried out in the presence of smoke.

15.4. Human receptors

Identified receptors where humans could be affected by the Project are temporary in nature. They include hunting camps, waterways, burial grounds, and other sites used for traditional or cultural activities.

There is one permanently, temporarily, or seasonally inhabited Indigenous camp within 10 km of the Project study area. This camp was recently set up 8 km west of the Project study area (about 10 km northwest of the planned mining site), in an area used by the Chisasibi community for traditional activities (trapline CH39). The other Indigenous camps found closest to the Project study area are located at kilometres 258 and 283 of the Trans-Taiga Road, respectively at 11 and 12.7 km of the Project study area.

Moreover, some seasonal human receptors, represented by vacation leases, are located nearby, the closest being about 18 km southwest of the Project on the western shore of de la Corvette Lake (Map 5).

Traps and other temporary infrastructures used for hunting may also be found near the Project site.

There is also the Mirage Aventure site, located about 75 km east of the Project, at kilometre 358 of the Trans-Taiga Road, and the Sakami Lake campground, located at kilometre 56 of the Trans-Taiga Road, more than 175 km west of the Project (Map 10**)**.

All human receptors will be further confirmed through field surveys and interviews with stakeholders as part of the planned community engagement program. The potential impacts of the Project on these temporary and seasonal human receptors will then be identified and management measures proposed as required.

As for the location of permanent human receptors, they are all at a distance from the Project components, since they are located in the Cree communities of Chisasibi, Wemindji and Mistissini, as well as in the community of Radisson, all more than 250 km from the Project.

15.5. Sectors of activity

The Nord-du-Québec economy is primarily based on the exploitation and processing of natural resources. In 2022, the share of the primary sector was nine times higher than in the rest of Québec (21.4% vs. 2.3%), while the tertiary sector appears to be less present (57.3% vs. 79.6%) (Table 20).

Table 20: Employment by sector in 2022

Territory	Primary sector	Secondary sector	Service sector	Total
Nord-du-Québec region	21.4%	21.3%	57.3%	100%
Province of Québec	2.3%	18.1%	79.6%	100%

Source: Statistics Canada, special compilation.

The Nord-du-Québec region's main economic sectors, according to gross domestic product (GDP) in 2020[5] are mining, quarrying, and oil and gas extraction (45.6%), construction (10.3%), public services (9.7%), public administration (8.4%), and health care and social assistance (7.1%).

15.6. Transportation infrastructure

Beginning at kilometre 544 of the Billy-Diamond Highway, the Trans-Taiga Road is a gravel road that stretches 666 km generally in an east-west orientation (Tourism Eeyou Istchee James Bay, 2016). The Project is located approximately 20 km south of the Trans-Taiga Road at kilometre 270.

The region is also served by several airports. The La Grande 4 airport is located approximately 30 km northeast of the Project. This facility serves the La Grande 4 hydroelectric facilities and is owned by Hydro-Québec (operations gradually transferred to the Société de développement de la Baie-James). There is also the La Grande-Rivière regional airport, located in the community of Radisson. It is operated by the Société de développement de la Baie-James (SDBJ, 2009). Located in the Cree community of Chisasibi, the Robert Kanatewat airport handles Air Creebec flights and also provides medical transport services for the Cree Board of Health and Social Services of James Bay (CBHSSJB) (Cree Nation of Chisasibi, 2023b). Finally, an airstrip is available at Mirage Aventure Outfitter.

La Grande Alliance

Launched in February 2020, the "La Grande Alliance" (LGA) project concerns the sustainable development of infrastructure in the Eeyou Istchee James Bay region. The main objectives of LGA are the environmental protection of certain areas (protected zones) and improved access to Eeyou Istchee for the Crees. The transportation infrastructures examined as part of LGA feasibility studies are designed to meet specific needs or seize privileged opportunities, with the aim of fully integrating the economy of the Eeyou Istchee James Bay region, and Cree communities in particular, with a view to sustainable resource development.

[5] The region's main economic sectors by GDP in 2020 presented for each region exclude the following sectors: finance and insurance, real estate and rental and leasing services, and management of companies and enterprises (NAICS 52, 53 and 55).

The main infrastructures studied by LGA involve (LGA, 2023):

- rehabilitation and paving of access roads to the communities of Waskaganish, Eastmain, Wemindji, Nemaska, and Mistissini;
- resurfacing and asphalting of Route du Nord;
- rail link between Matagami and the Rupert River;
- the reopening of the Grevet-Chapais railroad line;
- the rail link between the rivers Rupert and Grande Rivière;
- extending the road to Whapmagoostui;
- rehabilitation and extension of route 167;
- rail link between Grande Rivière and Whapmagoostui;
- development of a seasonal port at Whapmagoostui.

Patriot plans to truck the spodumene concentrate to Matagami via the existing Billy-Diamond Highway. In the context of LGA, Patriot will examine and investigate all alternative transportation solutions, including existing or future transportation infrastructure that would provide alternative means of transporting the concentrate. For example, the proposal by LGA to eventually extend Route 167 to the Trans-Taiga Road, creating a second north-south transportation corridor to serve the eastern part of the territory, could be a beneficial alternative transportation corridor.

This extension would significantly reduce travel time between Mistissini/Chibougamau and Chisasibi, and would link the two most populous regions in the area, facilitating inter-regional connectivity and providing access to currently isolated areas (LGA, 2023). In addition, the proposed railroad and port would help move products, supplies, and people to and from the Project site.

Since 2023, Patriot has been working to improve access to transportation facilities in Eeyou Istchee James Bay Territory. Patriot is mainly discussing with the Société de développement de la Baie-James on a pilot project to open the LG4 airport to the mining industry (the airport is owned by Hydro-Québec and operations are gradually transferred to the Société de développement de la Baie-James). This is part of Patriot's global strategy to manage circulation on the Trans-Taiga Road and reduce traffic related to the workforce transportation. Local and regional stakeholders were also made aware of the challenges involved in transporting spodumene concentrate from the Project site to the Matagami transshipment centre and had solicited their initial opinions. As part of these discussions, the Cree Nation Government directed Patriot to reach out its Commerce and Industry Department to probe their vision on regional transportation and to the results of the consultation efforts made regarding La Grande Alliance infrastructure projects (the railway that follows the existing Billy-Diamond Highway corridor, the extension of the Highway 167 to connect to the Trans-Taiga Road and the harbour at Whapmagoostui/Kuujjuarapik).

Patriot also met with the Bureau de commercialisation (Commercialization Office) and Direction des projets d'infrastructures (Infrastructure Projects Department) of the Société du Plan Nord about the infrastructure projects envisioned in La Grande Alliance, notably the extension of the Highway 167. As part of its preliminary assessment on raw material transportation, Patriot envisions opportunities to improve the economics of the Projet if these regional infrastructures are built in a timely manner. The Société du Plan Nord is offering to facilitate the discussion

around the development of the extension of the Highway 167 with all the interested parties (Cree Nations, compagnies, governmental entities, etc.). Patriot showed openness to participate if such committee is formed in 2025. Following the recommendations of the Cree Nation Government, Patriot is also working to form a working group to develop a regional transportation plan for its spodumene concentrate material. This working group should be launched in early 2025 and stakeholders will be invited to participate, such as the Cree Nation Government, Commerce and Industry Department, communities of Chisasibi and Wemindji, Eeyou Istchee James Bay Regional Government, Locality of Radisson, City of Matagami, Société du Plan Nord, Société de développement de la Baie-James, and other Cree or local entities who raised interest.

15.7. Hunting, fishing, and trapping

The Project site is located in hunting zone number 22 north and overlaps fur management units (FMU) numbers 91 and 94 (Gouvernement du Québec, 2022b, 2022c). Lake trout and walleye fishing are also of great interest.

As mentioned, the Project is located on Category III lands. These lands are accessible to all communities, but the Cree population retains exclusive rights to hunt and trap fur-bearing species, as well as to fish for certain aquatic species (notably lake whitefish, lake sturgeon, burbot, and suckers).

In parallel with modern life, Cree communities continue to hunt, trap, and fish as part of their traditional activities. The territory of Eeyou Istchee James Bay is divided into family traplines. These traplines are used year-round by Cree families for traditional activities (Cree-Québec Forestry Board, 2018). Species trapped in the area mainly include beaver, marten, muskrat, otter, red fox, lynx, and mink (CTA, 2021).

The Project site is located on trapline CH39 of the Cree Nation of Chisasibi and covers an area of approximately 2 070 km^2 (Cree Geoportal, 2023). The southern portion of the Company's mineral claims straddles trapline M02A of the Mistissini Cree Nation, which covers an area of approximately 2 202 km^2 , and trapline VC26 of the Wemindji Cree Nation. Note that all the proposed infrastructure for the Mine Project (with the exception of the existing roads) is contained within the traditional territory of the Cree Nation of Chisasibi on trapline CH39.

Goose and moose hunting are also important traditional activities for members of the Cree communities. The Goose Break is an age-old tradition practised by the Cree in the Nord-du-Québec region, and takes place in spring. Businesses and schools are closed for a few weeks to allow community members to take part in this traditional goose hunt (Air Tunilik, 2023). In addition to geese, other species such as caribou, bear, lynx, red fox, ruffed grouse, and ptarmigan are also hunted by Cree throughout the year (CTA, 2022).

15.8. Heritage and archaeology

The Project study area includes 114 zones with Indigenous archaeological potential: 111 zones with medium potential (covering 0.479 km²) and 3 zones with high potential (0.004 km²). Non-Indigenous archaeological potential is considered low, due to a lack of historic non-Indigenous settlements, though remnants of explorer, surveyor, or prospector camps may still exist. A flyover of the areas with archaeological potential was completed in 2024 and concluded that the planned Project infrastructure has the potential to impact an area of approximately 0.179 km^2 that was classified as having medium or high archaeological potential.

Efforts will be made to avoid ground disturbance of areas with medium or high potential, however if this is not possible, mitigation measures will be implemented to reduce any impacts on archaeological heritage. Planned mitigation measures include ongoing discussion and interviews with Indigenous land users to confirm that no Indigenous cultural sites are present in the area. A field survey is also planned for 2025 within the planned infrastructure area to confirm the presence of any archaeological or cultural artifacts. The field survey is planned to implement test pits at 10 m intervals and meticulous visual inspection.

During the course of the field survey, should any archaeological remains be discovered by chance, those responsible will immediately contact the responsible authority and follow the instructions that will be issued. Any discovery relating to First Nations heritage should also be communicated to the relevant First Nations councils and the Cree Nation Government. Work could be halted if it is impossible to move activities to a safe distance from the remains. An action plan in the event of an accidental discovery has been developed and is provided in Appendix A.

16. FINANCIAL SUPPORT

Patriot evaluates all forms and sources of funding for the Project, including the participation of a federal or provincial authority.

Potential funding opportunities are available through the Government of Canada's Critical Minerals Strategy, which aims to position Canada as a global leader in the critical minerals sector. As part of this initiative, Budget 2022 allocated $1.5 billion in targeted funding through the Strategic Innovation Fund (SIF) to support critical minerals projects. This funding prioritizes innovative projects focused on manufacturing, processing, and recycling applications.

Funding opportunities for Patriot under programs aligned with clean technologies and advanced manufacturing include:

- **Clean Technologies Program:** This program supports the exploitation of critical minerals and materials required to produce clean technologies such as zero-emission vehicles (ZEVs), energy storage solutions, and other innovations aimed at reducing environmental impacts through efficiency and sustainable resource use.
- **Advanced Manufacturing Program:** This initiative promotes the production of new materials, advanced alloys, and other critical mineral inputs to enhance Canada's strategic manufacturing capacity. It supports industrial productivity, product innovation, and mineral circularity through recycling, reusing, and recapturing minerals.

Plan Nord (Government of Québec)

As part of the 2023-2025 action plan of the Québec Plan for the Development of Critical and Strategic Minerals, the Société du Plan Nord, in collaboration with the Direction des politiques minières (Mining Policy Department) and the Direction générale du développement de l'industrie minière (Mining Industry Development Department) of the Ministère des Ressources naturelles et des Forêts (Resources and Forest), invited Patriot to take part in action 2.2.2 "Promote and improve instruments supporting the development of Critical and Strategic Minerals value chains close to the resource".

In 2024, Patriot benefited from a customized support sessions on the use of instruments, including financial assistance programs and tax measures designed to support the mining sector, and local and Indigenous training and hiring support programs. As part of the sessions, other aspects were discussed such as the general Project challenges and opinions on how to improve Québec's programs and attractiveness as jurisdiction open for business with international players. Discussions focused on raw materials processing, the missing link in the battery value chain in Québec and Canada, and the need to cooperate to attract a converter player into the province.

17. STATE-OWNED TERRITORIES

No federal lands are located in the area of the Project. No federal land will be used for the Project.

18. BODIES WITH POWERS TO ASSESS ENVIRONMENTAL EFFECTS

As part of the both the Government of Canada and the Government of Quebec will be required to issue various authorizations. This section presents a non-exhaustive list of the main authorizations identified to date.

18.1. Government of Canada

At the end of the impact assessment process of the EIA, Patriot will apply for permits for the construction and operations of the Project. A preliminary, non-exhaustive list of applications to be submitted to the federal government is presented below:

- licence to manufacture and store explosives (*Explosives Act*);
- permit to transport explosives (*Explosives Act*);
- Transport Canada permit for the transport of dangerous goods (*Transportation of Dangerous Goods regulations*);
- permit for the storage of chemical products (*Canadian Environmental Protection Act*);
- declaration to the National Pollutant Release Inventory;
- notice and emergency plan (*Regulation respecting environmental emergencies*);
- authorization to cause negative impacts on fish (*Fisheries Act*);
- authorization for mining effluent (*Metal and Diamond Mining Effluent Regulations*);
- approval for the installation of a work in navigable waters (*Canadian Navigable Waters Act*).

18.2. Provincial Government

Schedule 1 of Section 22 of the James Bay and Northern Quebec Agreement (JBNQA) contains a list of projects that must undergo the environmental and social impact assessment and review procedure described in Division III of Chapter II of Title II of the Environment Quality Act (EQA; c. Q-2). Schedule A of Title II of the *Environment Quality Act* (EQA) repeats this list and refines it to make it operational. The Mining Project, as a mining project on the territory of the James Bay and Northern Quebec Agreement (JBNQA), is designated by paragraph a) of Schedule A of the EQA:

- any mining project, including the expansion, conversion or modification of an existing mining operation.

The Comité d'évaluation des répercussions sur l'environnement et le milieu social (Evaluation Committee or COMEV) is an advisory body made up of members appointed by the governments of Québec, Canada, and the Cree Nation. It is responsible for reviewing the preliminary information provided by a proponent whose project is located in the territory governed by the JBNQA and situated south of the 55th parallel. On the basis of this information, COMEV recommends whether or not the project should be subject to the environmental and social impact assessment and review procedure. If the project is subject to the procedure, COMEV draws up a directive on the scope of the impact assessment to be carried out and recommends that the Québec government send it to the proponent.

At the end of the environmental and social impact assessment and review process, Patriot will apply for authorizations to build and operate the Project. A preliminary, non-exhaustive list of the provincial applications required is presented below:

- a specific authorization to erect or modify a building, undertake the operation of an industry, carry out an activity, or use an industrial process that could alter the quality of the environment (EQA).
- an authorization to establish a water supply intake (LQE).
- a specific authorization to erect or modify a construction, undertake the operation of an industry, carry out an activity, or use an industrial process that could affect a watercourse, lake or wetland (EQA).
- a compensation plan (*Loi concernant la conservation des milieux humides et hydriques*).
- an authorization for devices or equipment designed to prevent, reduce, or halt the release of contaminants into the atmosphere (EQA).
- an industrial sanitation certificate (LQE).
- an authorization for any activity involving the abstraction of groundwater or surface water (dewatering, keeping dry, water supply, etc.) (EQA).
- an authorization to carry out an activity likely to modify a wildlife habitat (*Act respecting the conservation and development of wildlife*).
- an intervention permit to cut timber for certain mining activities (*Sustainable Forest Development Act*).
- an operating permit for high-risk petroleum equipment (Safety Code and Building Code. These codes are governed by the *Building Act*).
- an approval of the site intended to receive mine tailings (waste rock and tailings facility) and the site of the processing plant (*Mining Act*).
- an approval of the rehabilitation and restoration plan (*Mining Act*).
- an authorization to use public land (*Loi sur les terres du domaine de l'État*).
- a licence to use explosives (*Explosives Act*).
- a permit from the Sûreté du Québec (*Explosives Act*).

19. POTENTIAL EFFECTS OF THE PROJECT

This section presents the main effects that could arise during the implementation of the Project for each of the implementation phases. It is currently too early in the Project's development to assess and present the mitigation measures that could be put in place to avoid or minimize the projected effects. Similarly, as the technical design of the Project is still preliminary, it is not possible to precisely identify the significant effects, and only the main apprehended effects are presented at a high level. These effects have been defined following the identification of the main sources of potential effects of each of the Project's implementation phases, which are presented in Table 21.

Table 21: Source of potential effects from the Project

Project phase	Sources of potential effects
Construction	– Hiring and training of construction workforce – Clearing and grading of areas for future infrastructure and works – Access road construction – Establishment of construction trailers and temporary sanitary infrastructures – Development of temporary water management infrastructure – Erection of equipment and material storage areas – Construction of the workers camp – Construction of primary power line and substation – Purchase of goods, services and materials – Transportation of goods, materials and machinery to site – Use and maintenance of heavy equipment – Construction of dikes and diversion of water from Lake 001 – Pit dewatering and fish relocation – Construction waste management – Management of domestic waste and hazardous materials
Operations	– Hiring and training of operations workforce – Ore extraction including drilling and blasting of open pit and underground mine – Operation of heavy equipment including shovels and haul trucks – Ore processing including crushing, separation, and storage of ore – Waste rock and tailings storage – Concentrate transport – Operation of water management systems, including effluent discharge – Use and maintenance of heavy equipment – Purchase of goods, services, and materials – Management of domestic waste and hazardous materials

Project phase	Sources of potential effects
Closure	– Reduction of operations workforce – Breaching of Lake 001 dike and flooding of the open pit – Backfilling of the underground mine – Restoration of natural drainage patterns – Revegetation of waste rock and tailings storage sites – Dismantling of infrastructure and buildings – Levelling of the process plant and workers camp – Scarifying the on-site roads and access road – Hydroseeding and tree planting throughout the site – Closure of domestic wastewater and industrial effluent discharge sites

The main anticipated effects of the Project on the receiving environment are presented in the following sections, which set out the possible effects on the components of the physical, biological, and human environment for each phase of the Project.

19.1. Changes in environmental components

Table 22 below presents the changes that are likely to be caused to environmental components according to implementation phases of the Project. Potential changes may be caused by one or more sources of potential effects (see Table 21). The components shown are those under Parliament's legislative jurisdiction, namely:

- fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act;*
- aquatic species within the meaning of subsection 2(1) of the *Species at Risk Act;*
- migratory birds within the meaning of section 2(1) of the *Migratory Birds Convention Act 1994.*

Table 22: Potential effects for environmental components

Components of the environment	Project phase	Source of potential effect	Potential effects
Fish and fish habitat **Aquatic species at risk** [1]	Construction	– Development of temporary water management infrastructure – Construction of dikes and diversion of water from Lake 001 – Pit dewatering and fish relocation	– Loss of fish habitat – Disturbance of fish populations due to relocation – Degradation of fish habitat quality from adjacent activities – Potential mortality of fish during relocation activities
	Operations	– Ore extraction including drilling and blasting of open pit and underground mine – Waste rock and tailings storage – Operation of water management systems, including effluent discharge	– Disturbance of fish populations from vibrations and fly rock – Loss of fish habitat from waste rock and tailings deposition – Disturbance of fish populations from industrial discharge – Potential mortality of fish due to waste rock deposition, fly rock, and vibrations

Components of the environment	Project phase	Source of potential effect	Potential effects
	Closure	– Breaching of Lake 001 dike and flooding of the open pit – Restoration of natural drainage patterns – Closure of domestic wastewater and industrial water discharge	– Increased fish habitat – Improvement in water quality
Migratory birds	Construction	– Clearing and grading of areas for future infrastructure and works – Access road construction – Establishment of construction trailers and temporary sanitary infrastructures – Erection of equipment and material storage areas – Construction of the workers camp – Construction of primary power line and substation – Transportation of goods, materials and machinery to site – Use and maintenance of heavy equipment	– Loss and fragmentation of habitat – Change in habitat quality – Disturbance of populations – Increased noise – Changes in air quality – Increased risk of collision or death from on-site traffic and transport of materials to site
	Operations	– Ore extraction including drilling and blasting of open pit and underground mine – Operation of heavy equipment including shovels and haul trucks – Ore processing including crushing, separation and storage of ore – Waste rock and tailings storage – Concentrate transport – Use and maintenance of heavy equipment	– Loss and fragmentation of habitat – Change in habitat quality – Disturbance of populations – Increased noise – Changes in air quality – Increased risk of collision or death from on-site traffic and concentrate transport off site
	Closure	– Revegetation of waste rock and tailings storage sites – Dismantling of infrastructure and buildings – Levelling of the process plant and workers camp – Scarifying the on-site roads and access road – Hydroseeding and tree planting throughout the site	– Improvement in habitat quality following completion of restoration work

1: To date, no aquatic species at risk have been inventoried in the project area.

20. ENVIRONMENTAL CHANGES ON FEDERAL LANDS IN ANOTHER PROVINCE OR OUTSIDE CANADA

The Project is not expected to have any impact on federal lands, or on lands outside the province of Québec or outside Canada.

21. IMPACT ON INDIGENOUS PEOPLES

Patriot recognizes the importance of fostering positive local benefits in host communities. To support this objective, the company has implemented a Responsible Procurement Policy, which aims to promote economic development through local purchasing initiatives. The key objectives of this policy include:

- Facilitating access by local contractors or suppliers to opportunities arising from our activities and supply chain and minimizing barriers that prevent their participation.
- Encouraging the development of local businesses to meet our needs and requirements, especially businesses owned by or employing Indigenous peoples, women, or other underrepresented groups.

Table 23 presents the impacts that, because of the Project and changes to the environment, could occur and affect the natural and cultural heritage, the current use of lands and resources for traditional purposes or any construction, site or thing of historical, archaeological, palaeontological, or architectural importance, based on the information available to date. This list will be updated in the light of consultations with Indigenous peoples.

The Project has the potential to affect the following components that fall under federal jurisdiction as referred to in section 2(1) of the IAA, namely:

- the Indigenous peoples of Canada, resulting from any change to:
  - physical and cultural heritage;
  - the current use of lands and resources for traditional purposes; or
  - any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

Table 23: Potential effects on Indigenous peoples

Component	Project phase	Source of potential change	Potential effect
Physical and cultural heritage	Construction	– Clearing and grading of areas for future infrastructure and works – Access road construction – Establishment of construction trailers and temporary sanitary infrastructures – Development of temporary water management infrastructure – Erection of equipment and material storage areas – Construction of the workers camp – Construction of primary power line and substation – Use and maintenance of heavy equipment – Construction of dikes and diversion of water from Lake 001 – Pit dewatering and fish relocation	– Possible loss of physical heritage due to direct impacts to land and water – Possible disruption of cultural heritage practices in the vicinity of the Project site due to restricted access

Component	Project phase	Source of potential change	Potential effect
	Operations	– Ore extraction including drilling and blasting of open pit and underground mine – Use and maintenance of heavy equipment, including shovels and haul trucks – Ore processing including crushing, separation, and storage of ore – Waste rock and tailings storage – Operation of water management systems, including effluent discharge	– Possible disruption of cultural heritage practices in the vicinity of the Project site due to restricted access – Potential change to valued viewsheds
	Closure	– Breaching of Lake 001 dike and flooding of the open pit – Restoration of natural drainage patterns – Revegetation of waste rock and tailings storage sites – Dismantling of infrastructure and buildings – Levelling of the process plant and workers camp – Scarifying the on-site roads and access road – Hydroseeding and tree planting throughout the site	– Possible change of long-term land use – Possible change to valued viewsheds
Current use of land and resources for traditional purposes	Construction	– Clearing and grading of areas for future infrastructure and works – Access road construction – Establishment of construction trailers and temporary sanitary infrastructures – Development of temporary water management infrastructure – Erection of equipment and material storage areas – Construction of the workers camp – Construction of primary power line and substation – Purchase of goods, services, and materials – Transportation of goods, materials, and machinery to site – Use and maintenance of heavy equipment – Construction of dikes and diversion of water from Lake 001 – Pit dewatering and fish relocation – Construction waste management – Management of domestic waste and hazardous materials	– Possible loss of places to practise traditional activities due to restricted access – Potential loss of natural resources including timber, medicinal plants, fish and wildlife due to direct disturbance of land and water – Possible disruption of traditional activities in the vicinity of the Project site due to increased noise and changes in air quality

Component	Project phase	Source of potential change	Potential effect
	Operations	– Hiring and training of operations workforce – Ore extraction including drilling and blasting of open pit and underground mine – Use and maintenance of heavy equipment, including shovels and haul trucks – Ore processing including crushing, separation and storage of ore – Waste rock and tailings storage – Concentrate transport – Operation of water management systems, including effluent discharge – Purchase of goods, services, and materials – Management of domestic waste and hazardous materials	– Potential loss of natural resources including timber, medicinal plants, fish and wildlife due to direct disturbance of land and water – Disruption of traditional activities in the vicinity of the project site due to restricted access – Possible disruption of traditional activities in the vicinity of the project site due to increased noise and changes in air quality
	Closure	– Reduction of operations workforce – Breaching of Lake 001 dike and flooding of the open pit – Backfilling of the underground mine – Restoration of natural drainage patterns – Revegetation of waste rock and tailings storage sites – Dismantling of infrastructure and buildings – Levelling of the process plant and workers camp – Scarifying the on-site roads and access road – Hydroseeding and tree planting throughout the site	– Disruption of traditional activities in the vicinity of the project site due to restricted access – Potential long-term changes to land use and landscape

Component	Project phase	Source of potential change	Potential effect
Structure, site or thing that is of historical, archaeological, paleontological or architectural significance	Construction	– Hiring and training of construction workforce – Clearing and grading of areas for future infrastructure and works – Access road construction – Establishment of construction trailers and temporary sanitary infrastructures – Development of temporary water management infrastructure – Erection of equipment and material storage areas – Construction of the workers camp – Construction of primary power line and substation – Purchase of goods, services, and materials – Transportation of goods, materials, and machinery to site – Use and maintenance of heavy equipment – Construction of dikes and diversion of water from Lake 001 – Pit dewatering and fish relocation – Construction waste management – Management of domestic waste and hazardous materials	– Possible loss of archaeological sites or artefacts due to direct impacts to land
	Operations	– Hiring and training of operations workforce – Ore extraction including drilling and blasting of open pit and underground mine – Use and maintenance of heavy equipment, including shovels and haul trucks – Ore processing including crushing, separation and storage of ore – Waste rock and tailings storage – Concentrate transport – Operation of water management systems, including effluent discharge – Purchase of goods, services, and materials – Management of domestic waste and hazardous materials	– Possible loss of archaeological sites or artefacts due to direct impacts to land

Component	Project phase	Source of potential change	Potential effect
	Closure	– Reduction of operations workforce – Breaching of Lake 001 dike and flooding of the open pit – Backfilling of the underground mine – Restoration of natural drainage patterns – Revegetation of waste rock and tailings storage sites – Dismantling of infrastructure and buildings – Levelling of the process plant and workers camp – Scarifying the on-site roads and access road – Hydroseeding and tree planting throughout the site	– No impacts are anticipated to this component during closure activities

22. CHANGES TO THE HEALTH, SOCIAL, OR ECONOMIC CONDITIONS OF INDIGENOUS PEOPLES

The Table 24 presents the changes that could occur as a result of the Project and affect the health, social, or economic conditions of Indigenous peoples, based on the information available to date. This list will be updated as consultations with Indigenous peoples continue.

The Project has the potential to affect the following components that fall under federal jurisdiction as referred to in section 2(1) of the IAA, namely:

- the health, social or economic conditions of the Indigenous peoples of Canada.

Table 24: Potential changes to the health, social, and economic conditions of Indigenous peoples

Components	Project phase	Source of potential effect	Potential effect
Health	Construction	– Hiring and training of construction workforce – Clearing and grading of areas for future infrastructure and works – Access road construction – Establishment of construction trailers and temporary sanitary infrastructures – Development of temporary water management infrastructure – Erection of equipment and material storage areas – Construction of the workers camp – Construction of primary power line and substation – Purchase of goods, services and materials – Transportation of goods, materials and machinery to site – Use and maintenance of heavy equipment – Construction of dikes and diversion of water from Lake 001 – Pit dewatering and fish relocation – Construction waste management – Management of domestic waste and hazardous materials	– Potential increase in stress levels due to changing land use – Potential change in family structures due to remote work schedule – Potential change to quality and availability of wild-caught foods including traditional plants, fish and wildlife
	Operations	– Hiring and training of operations workforce – Ore extraction including drilling and blasting of open pit and underground mine – Operation of heavy equipment including shovels and haul trucks – Ore processing including crushing, separation and storage of ore – Waste rock and tailings storage – Concentrate transport – Operation of water management systems, including effluent discharge – Use and maintenance of heavy equipment – Management of domestic waste and hazardous materials	– Potential increase in stress levels due to changing land use – Potential increase in stress levels due to increased noise levels – Potential change in family structures due to remote work schedule – Potential change to quality and availability of wild-caught foods including traditional plants, fish and wildlife – Potential impacts to respiratory health due to changes in air quality

Components	Project phase	Source of potential effect	Potential effect
	Closure	– Reduction of operations workforce – Breaching of Lake 001 dike and flooding of the open pit – Backfilling of the underground mine – Restoration of natural drainage patterns – Revegetation of waste rock and tailings storage sites – Dismantling of infrastructure and buildings – Levelling of the process plant and workers camp – Scarifying the on-site roads and access road – Hydroseeding and tree planting throughout the site	– No potential impacts to health are anticipated due to closure activities
Social and economic conditions	Construction	– Hiring and training of construction workforce – Clearing and grading of areas for future infrastructure and works – Access road construction – Establishment of construction trailers and temporary sanitary infrastructures – Development of temporary water management infrastructure – Erection of equipment and material storage areas – Construction of the workers camp – Construction of primary power line and substation – Purchase of goods, services and materials – Transportation of goods, materials and machinery to site – Use and maintenance of heavy equipment – Construction of dikes and diversion of water from Lake 001 – Pit dewatering and fish relocation – Construction waste management – Management of domestic waste and hazardous materials	– Increase in skills and trades within the population – Increase in jobs and training opportunities – Increase in business opportunities – Potential increase in local population – Potential increase in demands on regional services – Potential increased demand for housing – Potential change to population demographics due to the influx of non-local workers – Increase in traffic and associated increased risk of collisions

Components	Project phase	Source of potential effect	Potential effect
	Operations	– Hiring and training of operations workforce – Ore extraction including drilling and blasting of open pit and underground mine – Operation of heavy equipment including shovels and haul trucks – Ore processing including crushing, separation and storage of ore – Waste rock and tailings storage – Concentrate transport – Operation of water management systems, including effluent discharge – Use and maintenance of heavy equipment – Purchase of goods, services and materials – Management of domestic waste and hazardous materials	– Increase in skills and trades within the population – Increase in jobs and training opportunities – Increase in business opportunities – Increase in skills and trades within the population – Potential increase in local population – Potential increase in demands on regional services – Potential increased demand for housing – Potential change to population demographics due to the influx of non-local workers – Increase in traffic and associated increased risk of collisions
	Closure	– Reduction of operations workforce – Breaching of Lake 001 dike and flooding of the open pit – Backfilling of the underground mine – Restoration of natural drainage patterns – Revegetation of waste rock and tailings storage sites – Dismantling of infrastructure and buildings – Levelling of the process plant and workers camp – Scarifying the on-site roads and access road – Hydroseeding and tree planting throughout the site	– Loss of business and employment opportunities – Potential population decrease due to reduced local employment opportunities

23. GREENHOUSE GAS EMISSIONS

The Project's greenhouse gas emissions have been estimated based on the preliminary engineering data available, for the construction and operation phases only.

Total emissions associated with construction are estimated at 95 kt of CO_2 eq, mainly due to site deforestation. Emissions during this phase of the Project can be broken down as follows:

- diesel consumption by machinery: 4 439 t CO_2 eq
- deforestation: 88 kt of CO_2 eq
- diesel consumption in logistics transport: 2.1 kt CO_2 eq

Annual emissions associated with operations are estimated at 101 kt CO2 eq. Machinery accounts for 59% of these emissions, with logistics transport and explosives accounting for 38% and 3% respectively. It should be noted that these emissions are annual and vary from year to year during the operating phase. On an average basis during the operating phase, emissions break down as follows:

- diesel consumption (mobile sources): 60 kt CO_2 eq per year
- use of explosives: 3 kt CO_2 eq per year
- logistics transport (truck): 25 kt CO_2 eq per year
- logistics transport (train): 13.6 kt CO_2 eq per year

24. WASTE AND EMISSIONS

24.1. Waste management

The management of residual materials will promote the implementation of practices based on the 3RV, i.e., favouring the reduction, reuse, recycling, and recovery of residual materials. Residual materials will be managed in accordance with the laws and regulations in force. A management plan will be drawn up at a later stage of the Project.

The management of hazardous waste is regulated, and the disposal of these products will be carried out in accordance with the laws and regulations in force. A management plan will be drawn up at a later stage of the Project.

If any other category of waste is generated by the Project, Patriot would manage them in accordance with the laws and regulations in force.

A summary of the residual material that will potentially be present on the Project site is listed in the table below.

Table 25: Summary of the residual material

Category	Description (non-exhaustive)	Disposal location or collection company
Reusable Materials	– New residual materials, uncontaminated packaging	Reuse on-site
Recyclable Materials	– Paper, glass, plastic, cans, uncontaminated metal, tires	Metal recovery site
Compostable Materials	– Cafeteria food waste, expired food	Overburden pile
	– Brown cardboard (recycled cardboard mixed with compostable materials)	Overburden pile
Hazardous Residual Materials (HRM) – Liquids	– Liquids from mechanical workshops or spill cleanups	Specialized waste management company
	– Used oil, grease, sludge from wash bays, oily water, contaminated snow	Specialized waste management company
	– Wash water from mechanical workshops (without intermediate effluent)	Specialized waste management company
HRM – Industrial and Household Solids	– Antifreeze, solvents, aerosols, paint, fluorescent bulbs, lamps, batteries, smoke detectors, oil filters, rags, packaging, contaminated containers, halocarbons, used absorbents, electronic waste, laboratory products	Specialized waste management company
Contaminated Soils	– Spill cleanups (managed with HRM)	Specialized waste management company
Construction, Renovation, and Demolition Debris	– Wood, aggregates, drywall, uncontaminated dry materials	Trench landfill
Residual Waste for Disposal	– Bulky waste, litter bags, polystyrene foam, packaging, sanitary fabrics, composite objects, contaminated objects, non-recyclable plastic, rubber, ashes, plastic bags, plastic bottles, process waste, various empty containers	Trench landfill
Sanitary Sludge	– Sludge from the bioreactor	Specialized waste management company
Biomedical Waste	– From the infirmary; managed according to RLRQ, Q-2, r.12	Specialized waste management company
Tires	– Used tires	Specialized company / Recyc-Québec
Batteries	– Used batteries of all types (AA, etc.)	Specialized waste management company
Electronic Products	– Computer screens, computers, small electrical appliances, etc.	Specialized waste management company

24.2. Atmospheric emissions

During its construction and operation phases, the Project will result in the emission of certain substances into the atmosphere:

- particles (dust) of different sizes (fine particles [PM2,5], respirable particles [PM10], and total particles [PMtot]), including the natural elements associated with these particles (for example, certain metals);
- greenhouse gases (GHG), nitrogen dioxide (NO_2), sulphur dioxide (SO_2), and/or other compounds from the machinery and equipment used.

Atmospheric emissions from the Project must comply with the *Règlement sur l'assainissement de l'atmosphère* (RLRQ; Q-2, r. 4.1). An air quality and dust control management plan will be drawn up at a later stage of the Project.

24.3. Liquid waste

Water management including discharge to environment is detailed in Section 9.5.6.

24.4. Management of contaminated soil

Appropriate work practices and an emergency response plan will be put in place to prevent accidental spills, and in the event of such a spill, contaminated soil will be recovered and managed in accordance with current regulations.

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APPENDIX A : SUPPLEMENTARY INFORMATION

A-1 BATHYMETRY AND HYDROLOGY

A-2 ENVIRONMENTAL AND SOCIAL SCOPING

A-3 AQUATIC BASELINE REPORT

A-4 TRANSPORT STUDY SURVEY

A-5 MICROMAMMAL FIELD SURVEY REPORT

A-6 GEOCHEMISTRY CHARACTERIZATION REPORT

A-7 ATMOSPHERIC BASELINE TECHNICAL NOTE

A-8 ARCHAEOLOGICAL POTENTIAL REPORT