



**Environmental and Social Impact
Assessment for the Troilus Mine Project**

RIGHTS AND INTERESTS OF THE CREES

Environmental and Social Impact Assessment for the Troilus Mine Project

RIGHTS AND INTERESTS OF THE CREES

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Acronyms and abbreviations

2SLGBTQI+	Two-spirited (and two-spirited), lesbian, gay, bisexual, transgender, queer and intersex people as well as people belonging to sexual and gender diversity communities who use other terminology
ACHP	Archaeology and Cultural Heritage Program
AMW	Albanel-Mistassini-Waconichi Lakes
ASD	Apitsiwin Skills Development
CBHSSJB	Cree Board of Health and Social Services of James Bay
CNWA	Canadian Navigable Waters Act
COMEV	Comité d'évaluation des répercussions sur l'environnement et le milieu social (Environmental and Social Impact Evaluating Committee)
COMEX	Comité d'examen des répercussions sur l'environnement et le milieu social (Environmental and Social Impact Review Committee)
DFO	Department of Fisheries and Oceans
EIJBRG	Eeyou Istchee James Bay Regional Government
EMP	Emergency Measures Plan
ESIA	Environmental and Social Impact Assessment
FA	Fisheries Act
GBA+	Gender-based analysis plus
HHRA	Human Health Risk Assessment
IAA	Impact Assessment Act
IBA	Impact Benefit Agreement
JBACE	James Bay Advisory Committee on the Environment
JBNQA	James Bay and Northern Quebec Agreement
LADTF	Loi sur l'aménagement durable du territoire forestier (Sustainable Forest Development Act)
LAU	Land Use Planning and Development Act (Act respecting land use planning and development)
LCMVF	Loi sur la conservation et la mise en valeur de la faune (Act respecting the conservation and development of wildlife)
LQE	Loi sur la qualité de l'environnement (Environment Quality Act)
LSA	Local Study Environment
MA	Mining Act
MBCA	Migratory Birds Convention Act
MELCCFP	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (Department of the Environment, Climate Change, Wildlife and Parks)
MTMD	Ministère des Transports et de la Mobilité durable
PDA	Project Development Area
TSF	Tailings Storage Facility
RFA	Régime forestier adapté (Adapted Forestry Regime)
RSA	Regional Study Assessment
SARA	Species at Risk Act

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TSF	Tailings Storage Facility
VC	Valued Component

24. Rights and Interests of the Crees

This chapter describes the rights and interests exclusive to the Cree, as described in the various chapters of the Environmental and Social Impact Assessment (ESIA) (see Chapters 8 to 23 for references). Rights and Interests of the Crees include land-use activities and infrastructure, including waterways, for recreational, commercial and navigational purposes.

The assessment of the environmental impacts of the Valued Component (VC) Rights and Interests of the Cree is linked to several other components, including:

- Atmospheric Environment (Chapter 8) and Acoustic Environment (Chapter 9), since project activities may result in the disruption of traditional activities (hunting, fishing and trapping, among others) for which the Cree have recognized rights.
- Hydrology (Chapter 11) and Surface Water Quality (Chapter 12) as well as Hydrogeology (Chapter 13) and Groundwater Quality (Chapter 14), since changes in water quality and quantity may affect Cree interests, particularly in terms of navigation and aquatic activities, use of surface and groundwater resources, and harvesting and consumption of wildlife (aquatic, terrestrial and avian).
- Soil and Sediments quality (Chapter 15), since changes in this VC (such as contamination) can affect Cree interests, particularly in terms of toxicological risks.
- Vegetation, Riparian and Wetland Environments (Chapter 16), since changes in vegetation (e.g. disappearance and/or alteration of plant communities) can affect Cree interests, particularly for activities such as gathering and forestry, and for traditional activities (hunting, fishing and trapping) when these changes involve wildlife habitats.
- Terrestrial and Avian Fauna (Chapter 17), since this component is related to traditional hunting and trapping activities, for which the Cree have recognized rights, in a subsistence or recreational context.
- Fish and Fish Habitat (Chapter 18), since changes affecting fish and fish habitat can disrupt traditional fishing activities, for which the Cree have recognized rights, in a subsistence or recreational context.
- Land and resources use (Chapter 19), Infrastructure and services (Chapter 20) and Economic Conditions (Chapter 21), since changes in health, social and economic conditions and in access to land, resources, infrastructure and services may directly affect Rights and Interests of the Crees.
- Health (chapter 22), since changes in vegetation, fish and animals harvested and used for food may affect the health of the Crees who consume them.
- Landscape (Chapter 23), since landscape modification may affect Cree interests by disrupting their way of locating and moving around, as well as their traditional and recreational uses associated with this territory, where the Cree Nation has recognized hunting, fishing and trapping rights, among others.

24.1 Scope of Assessment

24.1.1 Regulatory and Policy Setting

The environmental impact assessment of the Rights and Interests of the Cree VC has been prepared in compliance with the federal environmental assessment procedure and, at the provincial level, with the specific environmental assessment provisions applicable to James Bay and Northern Québec (chapter Q-2, r. 25) under the James Bay and Northern Québec Agreement (JBNQA), which is the subject of section 24.1.1.1. This assessment is therefore based on the Directive issued by the Ministry of Environment, the Fight Against Climate Change, Wildlife and Parks (MELCCFP) (Appendix A.1) and the federal government's Tailored Impact Statement Guidelines for the Troilus mining project (Appendix A.2).

Section 22 (1) of the Federal Impact Assessment Act (2019) (IAA) stipulates the elements that must be addressed in the impact assessment. Among these elements, this section must consider the impact the project may have on the Indigenous communities concerned, on their culture and on the rights of the Indigenous peoples of Canada recognized and affirmed by section 35 of the Constitution Act, 1982.

At the level of the James Bay Eeyou-Istchee government, "Zoning By-law No. 213.1" is applicable on government territory, excluding Category I and II lands and former municipalities constituted prior to the coming into force of the James Bay Region Development Act (R.S.Q., c. D-8). As the project is located on this territory, it must comply with the regulations in force, and applications for permits and authorizations for the construction and operation of the project will also be required under this Act. Finally, the Cree Nation Mining Policy established by the Cree Nation Government must be considered in the project and impact assessment.

Other laws and agreements also frame the assessment of this VC, as they cover components with which it interacts, such as wetlands and water environments and species of interest, and are related to the permits and authorizations required to carry out project activities. These include the Fisheries Act (FA), the Migratory Birds Convention Act (MBCA), the Species at Risk Act (SARA) and the Canadian Navigable Waters Act (CNWA) applicable at the federal level, and the Mining Act (MA), the Environmental Quality Act (LQE), the Directive 019 on the mining industry, the Act respecting the conservation and development of wildlife (LEMV), the Act respecting the conservation and development of wildlife (LCMVF), the Regulation respecting activities in wetlands, bodies of water and sensitive areas (RAMHHS) and the Sustainable Forest Development Act (LADTF) at the provincial level. Regulatory frameworks applicable to VC Atmospheric Environment (chapter 8), Acoustic Environment (Chapter 9), Hydrological Regime (Chapter 11), Surface Water Quality (Chapter 12), Hydrogeology (Chapter 13), Groundwater Quality (Chapter 14), Soils and Sediments (Chapter 15), Vegetation, Riparian and Wetland Environments (Chapter 16), Terrestrial and Avian Fauna (Chapter 17), Fish and Fish Habitat (Chapter 18), Land and resources use (Chapter 19), Infrastructure and services (Chapter 20), Economic Conditions (Chapter 21) and Health (Chapter 22) therefore also apply to the Rights and Interests of the Cree VC, and are presented in greater detail in the associated chapters.

The following subsections provide further details on two landmark agreements concerning Rights and Interests of the Cree, namely the JBNQA and the Paix des Braves.

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24.1.1.1 The James Bay and Northern Quebec Agreement

The JBNQA was signed in 1975 by the governments of Canada and Quebec, and by representatives of the Cree and Inuit nations. It was amended in 1978 to include the Naskapi nation. This agreement, ratified by the Act respecting the land regime in the James Bay and New Québec territories, provides a framework for relations between the governments and the Indigenous people of Northern Québec, notably in matters of territorial management, user rights and environmental protection.

The JBNQA provides for:

- The settlement of Indigenous people lands claims;
- Financial compensation;
- Recognition of Indigenous hunting, fishing and trapping rights;
- The establishment of natural resource management regimes.

One of the structuring elements of the Agreement is the division of the territory into three categories of land. Category I lands are reserved for the exclusive use of Indigenous peoples, including housing, infrastructure and traditional activities. Category II lands are public lands where Indigenous peoples have exclusive hunting, fishing and trapping rights, but where the government retains certain management powers. Category III lands are public lands where Indigenous have guaranteed but non-exclusive harvesting rights.

The JBNQA also establishes an environmental protection regime applicable to development projects in the region. It has led to the creation of environmental governance bodies, such as the Environmental and Social Impact Evaluating Committee (COMEV), the Environmental and Social Impact Review Committee (COMEX) and the James Bay Advisory Committee on the Environment (JBACE), responsible for assessing the environmental impacts of proposed projects on the territory covered by the agreement.

24.1.1.2 La Paix des Braves

La Paix des Braves is an historic agreement signed in 2002 between the Québec government and the Grand Council of the Crees (Eeyou Istchee). It establishes a new framework for collaboration between the two parties, based on the recognition of ancestral rights, prior consent to development and the sharing of natural resources on Eeyou Istchee territory.

In particular, the agreement aims to strengthen Cree self-government and ensure their active participation in the regional economy, especially in the forestry, mining and hydroelectricity sectors. It provides for the establishment of land co-management mechanisms, such as the Cree-Québec Forestry Board, which enables joint planning of forestry activities while respecting traditional uses and community priorities. It also replaces certain obligations of the JBNQA with long-term financial commitments, paid directly to Cree authorities.

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On the cultural and heritage front, the Paix des Braves has led to the creation of specific programs, such as the Archaeology and Cultural Heritage Program (ACHP), administered by the Crees. This program promotes the documentation, protection and enhancement of important cultural sites from a perspective of Indigenous governance.

Finally, this agreement paved the way for other structuring initiatives, such as La Grande Alliance, a collaboration protocol signed in 2020 between the Quebec government and the Cree Nation. This initiative aims to plan sustainable development of the territory by integrating Cree priorities from the earliest planning stages. This initiative is frequently cited as a model of reconciliation and partnership between a provincial government and an Indigenous nation.

24.1.2 Influence of Consultation and Engagement

Troilus Gold Corp (Troilus) initiated a consultation and communication process with various project stakeholders at the outset of the project. This process is presented in Chapter 4 of the ESIA report.

Table 24.1 presents the main comments received from land users, stakeholders and members of the Cree Nation in relation to Rights and Interests of the Crees, and how these comments have been addressed in this section.

Table 24.1 Summary of Key Information, Indigenous Knowledge and Concerns for the Project Related to Rights and Interests of the Crees

Topic	Key Information, Indigenous Knowledge and Concerns	Influence on the Assessment	Where Information is Addressed in the ESIA
Atmospheric Environment	<p>Changes in air quality (dust). Land users have expressed concerns about:</p> <ul style="list-style-type: none"> past experience (older operations) where dust generation has been a problem. Particular attention needs to be paid to certain installations (settling pond, crusher). The potential presence of silica and cyanide in the dust and the radius of dispersion. Traffic nuisance on the Route du Nord and for camps located near the access road. <p>Land users suggested that Troilus install a dome on the pile of crushed ore and pave the access road.</p>	<p>The toxicological risks associated with changes in air quality have been assessed in the Human Health Risk Assessment (HHRA), and the perceived risks associated with these potential changes are discussed in Chapter 8 (atmospheric conditions) and section 22.4.2.1.2 of the Health VC.</p>	<p>Chapter 8 (Atmospheric Environment) and section 22.4.2.1.2 of the Health VC</p>
Acoustic Environment	<p>Land users have expressed concern about noise and vibration pollution for hunting and nearby camps (former mining operation). Identified sources include heavy vehicle noise (back-up alarms, unloading, etc.). During blasting activities on the site, vibrations could be felt in the camp located near Lake A.</p>	<p>Toxicological risks associated with changes in air quality were assessed in the HHRA.</p>	<p>Chapter 9 (Acoustic Environment)</p>
Hydrology	<p>Land users have expressed concerns about:</p>		

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Topic	Key Information, Indigenous Knowledge and Concerns	Influence on the Assessment	Where Information is Addressed in the ESIA
	<ul style="list-style-type: none"> Flooding risks associated with the Bibou Creek diversion. <p>Land users made the following recommendations to Troilus:</p> <ul style="list-style-type: none"> Reproduction of the natural flow of Bibou Creek. Development of Bibou Creek to promote iron dissolution (landings, oxygenation). Use of an outside engineering firm to design the Bibou Creek diversion. Diversion prior to start of operations and maintain new route without modification. 		
Surface water quality	<p>Land users and members of the Cree community have expressed concerns about:</p> <ul style="list-style-type: none"> Preservation of watercourse quality. Drinking water supply. Collection and treatment of water that has been in contact with mine tailings. Spill risks. The need to ensure proper water retention in the tailing's storage facility (TSF). The impact of mine dewatering on water quality in other nearby water bodies. 	<p>Toxicological risks associated with changes in air quality were assessed in the HHRA. Changes in biophysical pathways such as air, water, food and noise were assessed in the HHRA and in Chapter 12 (surface water quality).</p>	<p>Chapter 12 (surface water quality) and section 22.4.2.1.2 of the health VC.</p>
Groundwater quality	<p>Land users have expressed concerns about the location of drinking water sources and the monitoring of their quality and quantity.</p>	<p>Risks related to changes in biophysical pathways such as air, water, food and noise were assessed in the HHRA and in Chapter 14 (groundwater quality).</p>	<p>Chapter 14 (groundwater quality) and section 22.4.2.1.2 of the VC santé.</p>
Soils and sediments	<p>Land users have expressed concern about the risk of spills and the need to take measures to prevent the illegal dumping of hazardous materials by suppliers and contractors.</p>	<p>Concerns about potential contamination of environmental quality and toxicological risks have been assessed in section 22.4.2.1.2 of the Health VC.</p>	<p>Chapter 15 (soils and sediments) and section 22.4.2.1.2 of the Health VC.</p>
Vegetation, Riparian and Wetland Environments	<p>Land users have expressed concerns about:</p> <ul style="list-style-type: none"> Vegetation has not returned to original conditions following reclamation of the former mine. The impacts of (thickened) mill tailings on revegetation of the TSF area. Brushing/trimming required along the Troilus access road (45 km) to ensure visibility, especially around stockpile. <p>Land users asked about the possibility of gradual revegetation.</p>	<p>Concerns about perceived alterations to natural soils are assessed in section 22.4.2.1.1 of the Health VC. Concerns about traffic safety in natural areas due to vegetation growth are addressed in section 22.4.2.1.1 of the Health VC.</p>	<p>Chapter 16 (Vegetation, Riparian and Wetland Environments) and section 22.4.2.1.1 of the Health VC.</p>

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Topic	Key Information, Indigenous Knowledge and Concerns	Influence on the Assessment	Where Information is Addressed in the ESIA
Fish and Fish Habitat	<p>Land users and members of the Cree community have expressed concerns about:</p> <ul style="list-style-type: none"> Protecting aquatic wildlife; Maintaining connectivity between Lac Amont (PE2) and Lac A (PE43); The risk of introducing new species depending on the source of pumping water; Impacts of pit dewatering on fish (particularly walleye); Impacts of the Bibou Creek diversion on fish habitat. <p>Land users expressed the wish that the Bibou Creek diversion be maintained from construction to post-closure without modification.</p>	<p>The assessment of toxic substances and how they may potentially affect wild foods is addressed in the HHRA and in Chapter 18 (Fish and Fish Habitat).</p> <p>The assessment of toxic substances and their potential impact on the quality, availability and use of food and medicinal plants is covered in the HHRA and in Chapter 22 (Health).</p>	<p>Chapter 18 (Fish and Fish Habitat) and section 22.4.2.1.2 of the Health VC.</p>
Land and resource use	<p>Land users have voiced their concerns regarding:</p> <ul style="list-style-type: none"> Consideration of relationships between different land users. Access to the land during operation and restoration. Safety of land users (site access, travel on access roads, blasting activities, etc.). Impact on recreational and tourism activities in Réserve faunique Assinica (e.g., impact of light pollution given the future status as a Dark Sky Reserve). Development/restoration of infrastructures to enable the resumption of traditional activities. 	<p>Land-use concerns are addressed in the Health VC in section 22.4.2.1.1.</p>	<p>Chapter 23 (Landscape) and section 22.4.2.1.1 of the Health VC</p>
Economic conditions	<p>Cree First Nations and surrounding communities want their communities to benefit from economic spin-offs, particularly through local contracts and purchasing.</p>	<p>An economic impact and benefit agreement will be drawn up with the communities to guarantee local spinoffs from each phase of the project. A monitoring committee will be set up to ensure that these objectives are met. This process will continue throughout the life of the project.</p>	<p>Section 21.4.3.2 of the VC Economic Conditions</p>
Economic benefits	<p>Nibiischii Corporation has expressed the hope that the project will have no impact on tourism activities in the Assinica reserve.</p>	<p>The proponent will work with Nibiischii Corporation to mitigate as much as possible the impact of the project on tourism activities in the Assinica reserve. Measures that could be put in place include:</p> <ul style="list-style-type: none"> Establishing a procedure for communicating activities and guaranteeing tourist safety by setting up a procedure for traffic on Route du Nord. 	<p>21.4.3.2 VC Economic Conditions</p>

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Topic	Key Information, Indigenous Knowledge and Concerns	Influence on the Assessment	Where Information is Addressed in the ESIA
Employment services	Land users are concerned about the priority given to the local workforce.	Support will be provided to help residents find employment. In addition, priority will be given to employing local labour.	21.4.2.2 of the VC Economic conditions
Employment benefits	Income tax issues for Cree workers.	Cree taxation will be included as a topic in the Impact Benefit Agreement.	21.4.2.2 of the VC Economic Conditions
Employment benefits	Cree concerns about the impact of work rotation on their cultural activities.	The proposed work schedules are 7/7 and 14/14. Employees will be able to choose their preferred schedule whenever possible.	21.4.2.2 of the VC Economic Conditions
Employment benefits	An adapted training program specifically designed for minorities and indigenous nations.	A prior learning recognition program will be set up so that employees who leave their current job can access a similar position at Troilus. Training programs will be set up in partnership with Apitsiwin Skills Development (ASD) to ensure that the indigenous labour pool in Mistissini and Oujé-Bougoumou has access to available jobs.	21.4.2.2 VC Economic Conditions
Loss of harvesting sites	Tallymen reported that during the first phase of the mine, traditional activities were avoided within a 12 km radius due to dust, and that sandstorms were observed even 10 years after closure. Moose had left the area during the first phase of the mine but have returned since closure. Stockpiles walls are perceived as barriers. Tallymen recommend gentler slopes and the planting of local vegetation (e.g. willows).	Dust emission problems associated with the old project are well known, and measures have been developed to reduce, if not eliminate, these problems in the new operation.	Section 17.1.2 Section 18.1.2 Section 4.2.7 Appendix H1
Health	Physical health Land users have expressed concerns about the health impacts of mining infrastructures due to their proximity to Cree camps.	Concerns about toxicological risks associated with changes in air quality were assessed in the HHRA. Changes in biophysical pathways such as air, water, food and noise were assessed in the HHRA and in Chapters 9, 13, 16 (Acoustic Environment, Hydrogeology and Vegetation, Riparian and Wetland Environments).	Chapter 22 (Health) and section 22.4.2.1.3
	Well-being Land users and Cree community members have expressed concerns about the following: <ul style="list-style-type: none"> The importance of fair compensation among families affected by the project (history of trapline boundary disputes caused by the presence of the mine). 	These concerns about inward and outward migration, including crime rates, substance abuse, mental health, the impact on women, girls and 2SLGBTQI+, and discrimination and violence against indigenous peoples, are addressed in the Health VC.	Chapter 22 (Health) and section 22.4.2.1.3

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Topic	Key Information, Indigenous Knowledge and Concerns	Influence on the Assessment	Where Information is Addressed in the ESIA
	<ul style="list-style-type: none"> The experience of racism in past mining operation. The difficulty of long periods of work for family life, particularly for wives. 	Concerns about human trafficking are assessed in the Health VC.	
Landscape	<p>Cree land users express concern about two major issues:</p> <ul style="list-style-type: none"> The slopes are too steep for infrastructures such as the existing waste rock stockpile. The height of the stockpile, which will be like that of the adjacent hill (landscape landmark). 	Highlight the key elements of their perception of the territory and what influences them.	Section 23.4.1.2
Technological risks	Land users have expressed concern about the stability of the tailings storage facility (TSF), given that the infrastructure is over 30 years old. Health and safety measures, as well as an emergency measures plan (EMP), should be put in place.		Chapter 12 and section 22.2.3.1

24.1.3 Potential Impacts, Pathways and Measurable Parameters

Table 24.2 Potential Impacts, Pathways and Measurable Parameters for Rights and Interests of the Cree

Potential Impacts	Impact Pathways	Measurable Parameters and Units of Measurement
Changes in rights and interests	Construction could reduce access to the territory. Work schedules could reduce the practice of customary or traditional activities.	Number of barriers to access land Changes in customary or traditional practices
Changes in cultural heritage	Construction could impact valued cultural sites.	Number of sites/areas affected
Changes in land and resource use	Project construction and operation could result in: Loss of harvesting sites (hunting, fishing, trapping and gathering). Reduced resource harvesting success. Nuisances and disturbances in neighbouring areas (noise, vibrations, dust, lighting, traffic).	Number of sites/areas affected Areas where various uses overlap Areas where changes, restrictions or disturbances affect resource use Sensory disturbances affecting harvesting
Changes in social and economic conditions	Positive economic impacts can occur when employment and other project-related expenditures have direct, indirect and induced beneficial impacts on employment, income, business activity and government tax revenues. Adverse economic impacts can occur when the labor, goods and services required for a project exceed existing capacity, leading to supply problems and cost increases (e.g. wage and price inflation).	Supply of skilled labor (people), employment rate, labor force participation rate, wage levels, labor income. Economic indicators for the sub-populations concerned. Project workforce Value of local and regional spending and corresponding jobs.

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Potential Impacts	Impact Pathways	Measurable Parameters and Units of Measurement
Changes in health conditions	The construction and operation of the Project could lead to: Changes in land use. Changes in environmental quality. Changes in population dynamics.	Food security (traditional foods, availability of market foods and harvesting practices) Sense of belonging to a community Family and relationship dynamics Changes in traffic flow Level of annoyance (% severely annoyed) Health risk (hazard quotients [HQ] and additional lifetime cancer risk [ALCR]) Sleep disturbance (noise levels) Light intrusion (light halo and light intrusion limits) Chronic diseases (rates) Sleep disturbance (noise levels) Light intrusion (light halo and light intrusion limits) Risk behaviours (smoking rates, substance use) Crime (rates) Housing (availability)

24.1.4 Boundaries

24.1.4.1 Spatial boundaries

The boundaries of the study area have been established on the basis of the territory where project activities are likely to have an impact on services and infrastructures. Spatial boundaries specific to Rights and Interests of the Crees are shown on Map 24.1.

Project Development Area

The Project Development Area (PDA) encompasses the project footprint and is the anticipated area of physical disturbance associated with mine construction, operation and decommissioning and closure. It corresponds to the pits, stockpiles, TSF, industrial complex and other mining infrastructure, as well as the relocation of the access road and power line.

Local Study Area

The Local Study Area (LSA) is the area within which project-related impacts (direct or indirect) can be predicted or measured with a reasonable level of accuracy and confidence.

For Rights and Interests of the Crees, the LSA covers the area where impacts on the interests of indigenous peoples are most likely to occur. Its spatial boundaries therefore consider the study areas selected for other VCs affecting Rights and Interests of the Cree. Thus, it encompasses the LSAs for Acoustic Environment, Atmospheric Environment, Hydrology, Terrestrial and Avian Fauna, and Fish and Fish Habitat, as well as those for Vegetation, Riparian and Wetland Environments, since Cree land and resource use is largely influenced by the distribution of animal species and water resources.

The LSA therefore corresponds to the boundaries of traplines M34, M39A, M40 and M35A.

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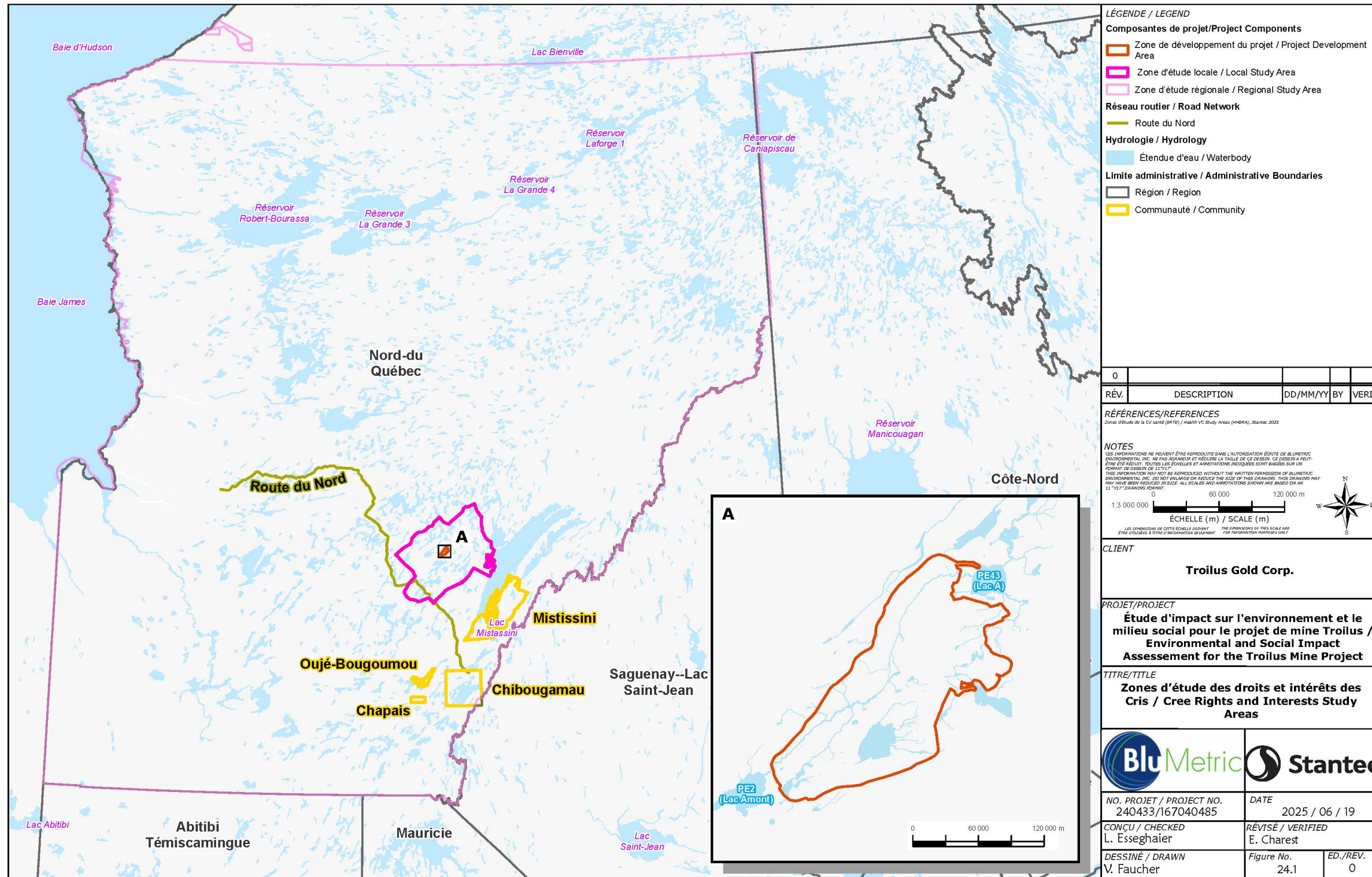
Regional Study Area

The Regional Study Area (RSA) establishes the context for determining the significance of project-specific impacts and also corresponds to the territory where potential cumulative impacts may occur. In the specific case of the Rights and Interests of the Crees VC, the RSA corresponds to the RSAs for the Health and Economic Conditions VCs. This study area therefore includes the boundaries of traplines M34, M39A, M40 and M35A, as well as the two communities of the Cree Nation of Mistissini and the Oujé-Bougoumou Cree Nation.

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Map 24.1 Local and Regional Study Areas



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24.1.4.2 Temporal boundaries

The temporal boundary of the assessment includes all phases of the project, from the start of construction to the end of closure. According to the current project schedule, project phases include:

- Construction (Year -3 to Year -1)
- Operations
 - Operations phase 1 (Year 1 to Year 21): milling with ore extraction
 - Operations phase 2 (Year 22): milling with no ore extraction
- Decommissioning and closure
 - Active closure (Year 22 to Year 24)
 - Passive closure (Year 24+)

Chapter 3 of the ESIA (Project Description) provides a detailed description of the activities planned for each phase.

24.1.5 Residual Impacts Characterization

Table 24.3 presents measures for characterizing residual impacts.

Table 24.3 Characterization of residual impacts on Rights and Interests of the Cree

Characterization	Description	Quantitative Measure or Definition of Qualitative Category
Direction	The long-term trend of the residual impact	<p>Positive - a residual impact that moves measurable parameters in a direction beneficial to the VC relative to baseline.</p> <p>Adverse - a residual impact that moves measurable parameters in a direction detrimental to the VC relative to baseline.</p> <p>Neutral - no net change in measurable parameters compared with the reference state.</p>
Magnitude	The magnitude of the change in measurable parameters or VC relative to existing conditions.	<p>No Measurable Change - no measurable in the impact can be noted.</p> <p>Low - measurable change in Rights and Interests of the Cree can be observed, but residual impacts cannot be distinguished from existing conditions within normal range of variability.</p> <p>Moderate - measurable change but not likely to pose a serious risk or benefit to Rights and Interests of the Cree from baseline.</p> <p>High - measurable change that is likely to pose a serious risk to Rights and Interests of the Cree.</p>

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Characterization	Description	Quantitative Measure or Definition of Qualitative Category
Geographic extent	The geographic area in which a residual impact occurs.	PDA - residual impacts are limited to the PDA. LSA - residual impacts extend to the LSA. RSA - residual impacts extend to the RSA.
Timing	Considers when the residual impact is expected to occur, where relevant to the VC.	No sensitivity - timing does not affect Rights and Interests of the Cree. Moderate sensitivity - timing may affect Rights and Interests of the Cree during lower sensitivity period, but the impacts are manageable with proper planning and mitigation measures. High sensitivity - residual impacts occur during high sensitivity period.
Duration	The time required until the measurable parameter or the VC returns to its existing condition, or the residual impact can no longer be measured or otherwise perceived.	Short-term - the residual impact is restricted to construction (<3 years) Medium-term - the residual impact extends through the operations phase (3 to 24 years). Long-term - the residual impact extends beyond the life of the Project (>25 years).
Frequency	Identifies how often the residual impact occurs and how often during the project or in a specific phase	Single event - the residual environmental impact occurs once during the project. Multiple irregular event - occurs at no set schedule. Multiple regular event - occurs at regular intervals. Continuous - occurs continuously.
Reversibility	Pertains to whether a measurable parameter or the VC can return to its existing condition after the project activity ceases.	Reversible - the residual impact is likely to be reversed after activity completion and reclamation. Irreversible - the residual impact is unlikely to be reversed.

24.1.6 Significance Definition

The threshold for determining the significance of impacts on Rights and Interests of the Crees considers some of the elements for characterizing residual impacts presented in Table 24.1.

The direction of residual impacts is important because it provides information on the nature, positive or adverse, of the project's impacts on Rights and Interests of the Crees. The magnitude of the modification is also considered, since it refers to the modification of Rights and Interests of the Crees in relation to existing conditions. Geographic extent is factored into significance thresholds by assessing the project's residual impacts beyond the PDA. Duration and reversibility are considered when irreversible long-term impacts threaten the long-term viability of Rights and Interests of the Cree. The other elements of

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characterization (timing and frequency), while important for better understanding when and where project impacts occur, do not provide information on the viability or otherwise of Rights and Interests of the Cree.

Thus, a residual adverse impact on Rights and Interests of the Crees is considered high when the residual impacts threaten the long-term viability of the VC (high magnitude) and the VC is unlikely to return to its pre-project state (irreversible).

The adverse impact on Rights and Interests of the Crees, on the other hand, is assessed as moderate if the residual impacts lead to a change in this VC, but this is not likely to result in a serious risk or benefit that the state of Rights and Interests of the Crees could approach the thresholds in the pre-project state and that, as a result, the impacts may be reversible.

Finally, the residual adverse impact is low or negligible when the state of Rights and Interests of the Crees under existing conditions and the state under project conditions are similar, and the modifications are therefore reversible.

24.2 Description of Valued Component

24.2.1 Methods

24.2.1.1 Literature review

The development of a baseline for the Rights and Interests of the Crees VC requires the description of the basic conditions for the various VCs with which it interacts.

Thus, for the biophysical VCs (Atmospheric Environment, Hydrology, Surface Water Quality, hydrogeology, Groundwater Quality, Soils and Sediments, Vegetation, Riparian and Wetland Environments, Terrestrial and Avian Fauna and Fish and Fish Habitat), a review of available data and information was carried out for three distinct periods: the baseline state of the environment prior to the operation of the former mine, the period of operation, decommissioning and closure and post-closure monitoring, and current conditions. These data and information were obtained from:

- Documentary reviews: environmental studies, scientific reports, public data, government publications and databases.
- Sampling campaigns, field inventories, characterizations, etc.

For VCs relating more to the human environment (land and resources use, infrastructure and services, economic conditions, health and landscape), data and information were obtained from:

- Existing statistical data and public information (maps, reports, studies, public databases, government data), online sources and geospatial data warehouses, as well as other documents and environmental assessments.
- Stakeholder consultations and interviews.

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Further details on the methodology used to analyze each of the VCs in relation to Rights and Interests of the Crees are presented in the chapters related to the VCs pertaining to the biophysical environment (chapters 8, 9, 11, 12, 13, 14, 15, 16, 17, 18) and the human environment (chapters 19, 20, 21, 22 and 23).

24.2.1.2 Cree Information and Consultation Process

Chapter 4.1 summarizes all information and consultation activities with the Cree community. In summary, since acquiring the mine site in 2017, Troilus has implemented a series of engagement activities with the Cree communities, primarily the Cree Nation of Mistissini and the Oujé-Bougoumou Cree Nation. These included the signing of a pre-project agreement in 2018, the deployment of a community liaison officer in Mistissini (in place from 2018 to 2022, then rehired in 2025), and numerous one-on-one meetings with land users, including the tallymen of traplines M-34, M-39A, M-40 and M-35. Technical workshops were held on water management (in 2022 and 2024) and on the restoration plan (in 2025), enabling community recommendations to be incorporated into the project design. Open houses were held in Mistissini and Oujé-Bougoumou in October 2024, and an advisory committee was formed in November 2023 to ensure ongoing dialogue. Troilus also conducted surveys of Indigenous families and organizations and conducted semi-structured interviews with territory users to document their traditional knowledge (see section 24.2.1.3). Since November 2019, monthly communications presenting summaries of operations (statistics on jobs created on the site, projected activities, updates on consultation activities and the ongoing ESIA, results of water quality analyses, etc.) have been sent to interested stakeholders. Finally, targeted consultations were conducted with sub-groups (youth, women, seniors, 2SLGBTQI+, job seekers) to better understand the issues specific to each and tailor mitigation measures accordingly. All these activities are summarized in the following table.

Table 24.4 Summary of Cree Information and Consultation Activities

Type of Activity	Participants	Objective	Results / Follow-up
Pre-project agreement	Cree Nation of Mistissini	Establish a framework for collaboration	Agreement signed in 2018
Community liaison officer	Community of Mistissini	Facilitate communication between Troilus and the community	In place from 2018 to 2022, rehired in 2025
Individual meetings	Land users (tallymen)	Document traditional uses and concerns	Meetings held between 2019 and 2025
Technical workshops	Cree communities	Discuss water management and restoration plan	Workshops in 2022, 2024 (water) and 2025 (restoration)
Open houses	Mistissini and Oujé-Bougoumou communities	Inform and gather feedback	Event planned for October 2024
Advisory committee	Cree community representatives	Ensure ongoing dialogue	Committee formed in November 2023
Surveys	Indigenous families and organizations	Gather perceptions and expectations	Surveys conducted in 2023
Semi-structured interviews	Land users	Document traditional knowledge	Interviews conducted as part of the ESIA (see 24.2.1.3)
GBA+ consultations	Youth, women, seniors, 2SLGBTQI+, job seekers	Understanding the issues specific to each group	Targeted consultations conducted

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24.2.1.3 Interviews with land users

At the outset of this ESIA, the Stantec team developed a Cree stakeholder consultation plan specific to this study. Stakeholders potentially affected by the project were identified in collaboration with Troilus, which had already established communication and initiated information and consultation processes with most of them. Thus, tallymen and users of the three traplines affected by the project footprint, and those of a trapline located near the project, were invited to participate in consultation activities focusing specifically on Cree land and resource use. The objectives of these meetings were to:

- Consider Cree concerns and recommendations regarding the Troilus mining project.
- Gather Indigenous and traditional knowledge about the project's host environment.
- Document current land and resource use.
- Identify potential impacts of the project and appropriate measures to mitigate impacts or maximize benefits.

In preparation for the meetings, a semi-structured interview grid was developed based on the guidelines for this ESIA, the results of the review of existing information and the experience of similar projects. In addition, large-format maps illustrating existing information were produced for each trapline.

Troilus made initial requests for interviews with land users. The Stantec team then took over communications in connection with these consultation activities. The first series of interviews took place from November 4 to 8, 2024, followed by a second series from February 17 to 20, 2025. The families were met separately, in Mistissini or at the mine site at their convenience, by two Stantec specialists.

Prior to each interview, the Stantec team explained the context and objectives of the meeting and ensured that informed consent was obtained from the participants before proceeding. In addition, the team checked that participants had all available information on the project, and if they had any questions. The themes addressed during the interviews can be grouped into the following broad categories.

Description of activities and land-use elements:

- Harvesting activities (hunting, fishing, trapping, gathering);
- Housing (camps, cabins, campsites, etc.);
- Trails and roads;
- Social or cultural sites (community site, gathering place, historical site, ceremonial and/or sacred site, etc.);
- Environmental information on the study area:
 - Terrestrial and aquatic wildlife;
 - Vegetation and wetlands;
 - Water resources;
- Changes observed since the closure of the first Troilus mine.

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- Potential impacts and recommendations:
 - Construction phase;
 - During operation;
 - Post-closure;
- Other concerns and recommendations.

Large-format paper maps were used to support the discussion and to collect, locate and validate the information shared by the participants. Once the interview notes had been written up, the information that had been collected on the paper maps was integrated into a GIS database created specifically for this ESIA. This facilitated, among other things, the performance of various analyses and the sharing of data with colleagues from other disciplines also working on the ESIA.

Validation interviews were organized with study participants, so that they could review the data collected, check its accuracy and make clarifications where necessary. Preliminary interview notes were shared and read with participants to validate accuracy and clarify information where necessary. The validation process also enabled land users to share additional data or express other concerns and recommendations.

24.2.2 Existing Conditions

24.2.2.1 Rights, Governance and Legal Context

Land use planning in the Nord-du-Québec region is governed by the Act respecting land use planning and development (Loi sur l'aménagement et l'urbanisme - LAU) and implemented by the Eeyou Istchee James Bay Regional Government (EIJBRG), a joint municipal body made up of Cree and Jamesian representatives. The project is located on Category II and III lands, as defined by the JBNQA. Category II lands are co-managed by the Crees and regional authorities, with exclusive hunting, fishing and trapping rights for the Crees. Category III lands, although public, are also subject to joint planning, notably by the Eeyou Planning Commission.

The RSA includes several protected areas, including the Albanel-Mistassini-Waconichi (AMW) and Réserve faunique Assinica, managed by the Nibiischii Corporation on behalf of the Cree communities. These reserves are dedicated to wildlife conservation and recreational activities such as fishing and canoe-camping. Hunting is reserved for indigenous people. Other protected areas, such as Parc national Nibiischii and biological refuges, prohibit all mining and logging activities.

The territory is also marked by the presence of mining claims, several of which are held by Troilus. Exploration projects are underway, notably by Sumitomo Metal Mining and Sayona. In terms of forestry, the area is included in management unit 026-61, subject to an adapted forestry regime (RFA) that encourages Cree participation. However, forestry activities are limited by measures to protect woodland caribou, including areas closed to logging for 65 years.

More specifically, the PDA is located at the confluence of three traplines, M34, M39A and M40, which are used year-round by tallymen and many members of their extended families.

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The RSA corresponds to the three traplines directly affected by the Project footprint, M34, M39A and M40, and also includes trapline M35A, located east of the PDA.

Consultations with land users highlighted several territorial conflicts between impacted tallymen, particularly in relation to the positioning of their trapline boundaries. Consultations with stakeholders also highlighted a perception of inequity between the compensation offered and the impacts suffered. Indeed, many users could be affected at various levels without being eligible for compensation if they do not occupy a trapline included in the LSA, or even if they do not occupy any trapline at all.

24.2.2.2 Archaeological and cultural heritage

The chapter 5 of the ESIA presents current conditions relating to archaeological and cultural heritage and includes two complementary components: archaeological discoveries and the cultural significance of the territory for Cree communities.

Two archaeological surveys were carried out in 1993-1995 and 2024. They uncovered two sites of interest. Site EfFo-1, located near Line Lake, revealed more than 2,600 lithic objects and nearly 200 bone remains, mainly made of chert from Lac Albanel. These elements suggest the existence of a seasonal camp used for hunting and hide processing. In 2024, another site, EfFp-1, was identified near Lac A, with the discovery of a biface blank. These sites are located on well-drained eskers, ideal for human occupation. Excavations have provided a better understanding of prehistoric occupation in the area, and no other traces of extraction or occupation have been observed along the proposed access road route.

From a cultural point of view, the territory is meaningful to Cree families. Certain elements of the landscape, such as hills, lakes and islands, are considered cultural landmarks or natural boundaries between traplines. For example, the range of hills to the east of the PDA is called "Bear neck mountain" by the Awashish family, in connection with a hunting history. The Neeposh family also attributes cultural significance to these hills but draws the boundary differently. The territory is also used for hunting, fishing, gathering and other traditional activities. Burial sites, birthplaces and even a legendary site associated with sasquatch footprints have been reported.

Considering that the excavation of archaeological sites entails the removal of archaeological information and artifacts from the site to enable their preservation despite the destruction of the sampling area, archaeological and cultural heritage is not retained as a VC. Nevertheless, archaeological information remains accessible outside its geographical context, notably through field notes, artifact analysis, specialized studies and archaeological intervention reports.

Chapter 19 of the ESIA also highlights the cultural importance of the territory, with the presence of birth and burial sites, legends and geographical landmarks such as Maskwawuti Hill. It highlights the past impacts of mining on wildlife, including the temporary disappearance of moose from the PDA, and concerns about dust, noise and ecosystem disturbance.

24.2.2.3 Land and resources use

Chapter 19 of the ESIA presents existing conditions related to Cree land and resources use in the project study area. In short, the chapter describes a territory occupied and used for subsistence, cultural and

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recreational purposes, including traplines M34, M39A, M40 and M35A. These areas are frequented year-round by tallymen and their families, who maintain permanent and seasonal camps, particularly near Lake A, in the immediate vicinity of the mine site.

Traditional activities include moose, beaver, bear and bird hunting, as well as fishing for walleye, pike, speckled trout and whitefish. Blueberries, medicinal plants and other plant resources are also gathered, mainly along forest roads. Subsistence relies heavily on these natural resources, with some families estimating that up to 70 % of their diet comes from hunting, fishing and gathering.

The natural heritage of traplines M34, M39A and M40, as described by tallymen during land-use consultations, bears witness to an ecological and cultural wealth rooted in the territory. Moose, once hunted in the areas now affected by mining activities, had deserted the site during the first phase of the project. Since the mine's closure, they have begun to reappear, although mining infrastructures such as stockpiles walls still constitute obstacles to their movement. Black bears are now more numerous, especially around revegetated areas, and hunting them is still governed by Cree rules of respect for wildlife.

Migratory caribou stopped frequenting the region over a decade ago, but woodland caribou are still present, particularly around Avranches Lake. Beavers, meanwhile, have recolonized the streams diverted after the mine closed, building lodges and playing an important ecological role. Tallymen insist on respectful management of these animals, avoiding the destruction of their dams unless there is a real risk.

Goose hunting, although practiced, is less successful in managed fields than in natural ponds. Climate change, particularly the more rapid melting of snow, is altering hunting seasons. Other species, such as cranes and bald eagles, are becoming increasingly visible, the bald eagles being attracted by waste and beaver behaviour.

In addition, the region's lakes and streams - notably Lac A, Lac Boisfort, Lac Canotaicane, Lac Robineau and Lac Troilus - remain essential fishing grounds, rich in walleye, sucker, whitefish, pike and trout. These resources, like land game, are central to the livelihood of Cree families, who perpetuate their hunting, fishing and trapping practices in a spirit of sharing and intergenerational transmission.

Finally, navigation on the water is an essential component of land use. The Crees use boats to travel and access their harvesting sites, with portages built between waterways. However, some areas of the PDA are not currently used for navigation, which could influence the assessment of the project's impacts on this use.

Cree land use is discussed in Chapter 19 of the ESIA. Traplines M34, M39A and M40 are used for hunting, fishing, gathering and cultural activities. Several camps are located near the mine site. Areas for moose hunting, walleye fishing and blueberry and cranberry picking have been identified. The area is culturally and spiritually significant, with burial grounds, birthplaces and legendary sites.

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24.2.2.4 Social and Economic Conditions

Chapter 21 of the ESIA provides a detailed portrait of social and economic conditions in the project's LSA and RSA. It covers services and infrastructure, housing conditions, health, education and transportation services, as well as land use by Cree and Jamesian communities.

On the social front, housing is often old and in need of major repairs, especially in Cree communities. Access to affordable, adapted housing is an important issue, especially for large families and those on low incomes.

Health services for Cree communities are provided by the Cree Board of Health and Social Services of James Bay (CBHSSJB). Chibougamau has a regional hospital but faces recruitment challenges. Mistissini and Oujé-Bougoumou are served by Miyupimaatiisiiun centers offering primary care and specialized services. Staff shortages are affecting the continuity of services in several facilities.

In terms of education, graduation rates are lower in Cree communities than in Jamesian towns. Childcare services are inadequate throughout the region, hampering work-family balance and labor recruitment.

The road network is well developed, with Route du Nord, Route 167 and Route 113 serving the region. Air transportation is provided by the Chibougamau-Chapais airport. Public transit is limited, but bus and freight services are available.

Finally, Chapter 21 looks at economic conditions. Cree communities are experiencing population growth, unlike Jamesian towns. Incomes are generally lower in native communities, but women sometimes earn more than men. The mining sector is a major economic driver, with a growing need for workers. The Troilus project could contribute to job creation but also raises issues of social integration and pressure on public services.

24.2.2.5 Sanitary Conditions

The assessment of health conditions in Chapter 22 is based on a holistic approach to health, integrating physical health, mental health, social well-being and community safety. It considers biophysical determinants (such as the quality of air, water, soil, noise, light and traditional foods) and social determinants (such as income, housing, education, access to healthcare, social cohesion and cultural continuity). These factors are interconnected and directly influence the overall health of populations.

The analysis identifies three main mechanisms by which the project could affect health: the physical presence of the mine, emissions of contaminants into the environment, and the arrival of workers in local communities. These elements can lead to changes in land use, environmental quality and demographic dynamics, with potential repercussions on food security, sense of belonging, family relationships, risk behaviours, crime, access to housing and mental health.

Chapter 22 provides a detailed portrait of the health of the Cree population, based on data from the Mistissini and Oujé-Bougoumou census subdivisions and the Terres-Cries-de-la-Baie-James health and social services region. Significant disparities were observed between the two groups, in terms of both social determinants of health and health outcomes. Cree communities have higher rates of psychological distress, food insecurity, chronic diseases such as diabetes, and sexually transmitted infections. On the

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other hand, they have a lower cancer mortality rate than Jamesian communities, where chronic diseases, particularly cancer, are more prevalent.

The social determinants of health reveal marked differences. The Cree have lower levels of education, housing that is more often in poor condition, and more limited access to affordable, nutritious food. The cost of a nutritious food basket is approximately 30-40 % higher in Eeyou Istchee than in the rest of Quebec, making healthy eating difficult to access for low-income families. Access to health care is more culturally appropriate for the Crees, thanks to CBHSSJB services.

The Cree communities of Mistissini and Oujé-Bougoumou benefit from structured access to the health and social services offered by the CBHSSJB. In Mistissini, the Miyupimaatisiun Community Centre offers services tailored to different age groups, including Awash services for pregnant women, infants and children up to 9 years of age, Uschiniichisuu services for young people aged 10 to 29, and Chishaayiyuu services for adults over 30. The center also offers dental care, medical imaging services, a pharmacy, paratransit, mental health services and hemodialysis. Mistissini also has a multi-service day center, home and community care programs, a regional youth healing center and a regional public health department. In Oujé-Bougoumou, the Healing Center offers emergency services, as well as Awash, Uschiniichisuu and Chishaayiyuu services, plus dental, pharmaceutical, mental health, youth protection and home care services. There is also a multiservice day center. Since 2023, Mistissini has had a dedicated psychiatrist and Oujé-Bougoumou a pediatrician. These services are rooted in traditional Eeyou/Eenou values, which emphasize principles such as respect, sharing, patience and humility, and are at the heart of the Indigenous determinants of health. Consultations held with tallymen in connection with the Troilus mining project revealed the importance of the connection to the land for the health and well-being of the Crees. Participants pointed out that most of their diet comes from hunting, fishing and gathering, and that medicinal plant harvesting areas are not affected by the project. Indeed, the importance of cultural determinants of health for the Cree, such as ties to the land, cultural continuity and traditional food practices, is significant. The consumption of traditional foods remains essential, but is threatened by environmental change, economic pressures and the loss of traditional knowledge. Past and future mining activities, such as those of the Troilus project, raise concerns about the quality of water, air, noise and dust, which can affect the physical, mental and cultural health of communities. These elements underline the importance of a culturally safe and inclusive approach in the development of projects impacting Cree communities.

In terms of mental health, suicidal thoughts and attempts are higher among the Cree, particularly among young people. Cree youth are particularly vulnerable, with high rates of youth protection referrals, school dropout and teenage pregnancy. Youth support services are in place, but data on Jamesian youth is limited.

Finally, community safety issues, including domestic violence and violent crime, which disproportionately affect Indigenous women, underscore the importance of integrating an intersectional analysis (GBA+) to better understand the differential impacts of development projects on various segments of the population, including women, 2SLGBTQI+ people, youth, low-income people and people living with disabilities.

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24.3 Project Interactions with Rights and Interests of the Crees

Table 24.5 identifies, for each potential impact, the activities likely to interact with Rights and Interests of the Crees and result in the identified impact. Insofar as the project's footprints do not affect, or affect only in a minor way, elements of archaeological and cultural heritage, and given the implementation of mitigation measures, this component is not retained for the assessment of residual impacts.

These interactions are indicated by a bracket or dash and are discussed in detail in section 24.4, in the context of the pathways, standard and project-specific mitigation/enhancement measures, and residual impacts.

Table 24.5 Project interaction with Rights and Interests of the Cree

Physical Activities	Impacts Changes related to Rights and Interests of the Crees			
	Rights and interests	Land and resource use	Social and economic conditions	Health conditions
Construction				
Labour, equipment and materials transport to the site.	-	√	-	√
Vehicles and equipment operation and maintenance within the PDA.	-	√	-	√
Tree cutting, vegetation clearing, soil stripping and earthworks.	√	√	√	√
Handling and use of explosives, including blasting.	-	√	-	√
Construction of temporary and permanent buildings, including wastewater treatment system and drinking water collection and distribution system.	√	√	√	√
Construction of mining infrastructures such as stockpiles, pits and the raising of TSF.	√	√	√	√
Construction of roads and preparation of construction surfaces including the crushing of material used for construction. Relocation of a section of the access road and power line.	√	√	√	√
Construction of water management systems including ditches, diversion channel, sedimentation ponds and the water treatment plant.	-	√	√	√
Dewatering of natural water bodies and pits, lowering water level in tailings management facility and management of contact water.	-	√	√	√
Diversion of Bibou Creek (CE2).	-	√	√	√
Relocation of power line.	-	√	-	√
Management of waste materials, including hazardous waste.	-	√	-	√
Purchase of goods and services.	-	-	-	√

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Physical Activities	Impacts Changes related to Rights and Interests of the Crees			
	Rights and interests	Land and resource use	Social and economic conditions	Health conditions
Employment and expenditures.	√	√	-	√
Operation				
Labour, equipment and materials transport to the site.	-	√	-	√
Vehicles and equipment operation and maintenance within the PDA.	-	√	-	√
Handling and use of explosives, including blasting.	-	√	-	√
Ore extraction from pits including drilling and hauling of waste rock.	-	√	-	√
Ore, waste rock and tailings storage.	√	√	-	√
Ore processing including conveyor, crushing, loading and hauling on site.	-	√	-	√
Transportation of concentrate to a smelter or a wharf.	-	√	-	√
Management and treatment of water on the mine site and to the environment, including drainage and contact water.	-	√	√	√
Progressive reclamation of disturbed areas.	√	√	√	√
Management of waste materials, including hazardous waste.	-	√	-	√
Purchase of goods and services.	-	-	-	√
Employment and expenditures	√	√	-	√
Decommissioning and Closure				
Labour, equipment and materials transport to the site.	-	√	-	√
Vehicles and equipment operation and maintenance within the PDA.	-	√	-	√
Decommissioning, dismantling and disposal of buildings and equipment.	√	√	√	√
Pits flooding, surface and groundwater management.	-	√	√	√
Reclamation of disturbed areas, including earthworks, placement of overburden and revegetation.	-	√	√	√
Management of waste materials, including hazardous waste.	-	√	-	√
Purchases of goods and services.	-	-	-	√
Employment and expenditures	√	√	-	√

Notes:

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Physical Activities	Impacts Changes related to Rights and Interests of the Crees			
	Rights and interests	Land and resource use	Social and economic conditions	Health conditions

√ = Possible interaction
 - = No interaction

The project's main potential interactions with land and resource use during the construction phase relate to activities likely to degrade the land, cause nuisance (noise, dust, vibrations, lighting) or restrict access to the areas used.

24.4 Assessment of Residual Impacts on Rights and Interests of the Crees

24.4.1 Changes in Rights and Interests of the Crees

24.4.1.1 Project Pathways

In addition to the pathways mentioned in sections 24.4.1.2, 24.4.1.3 and 24.4.1.4, the project is expected to raise issues for Rights and Interests of the Crees.

Clearing, construction and mining activities could restrict Cree access to their traditional territory, thereby compromising their fundamental right to use, occupy and enjoy their ancestral lands. The loss of harvesting sites, wildlife disturbance and temporary access restrictions limit the practice of cultural, spiritual and subsistence activities essential to Cree identity.

Reduced access to the territory and environmental degradation may compromise the Cree's ability to maintain their traditional hunting, fishing and gathering practices. This situation undermines their right to culture and the intergenerational transmission of knowledge. The replacement of traditional foods by market products, often less nutritious, affects food security and increases the risk of chronic disease, which constitutes an indirect infringement of the right to health.

The massive arrival of workers and their families in the region could lead to increased pressure on public services, without the Cree communities necessarily benefiting from an equivalent strengthening of their own infrastructures. Although the increase in the Cree population is not anticipated, members of these communities could suffer collateral impacts, notably in terms of access to healthcare, education and social services, raising issues of equity and non-discrimination.

The project's environmental impacts, such as potential contamination of water, air and soil, as well as noise and light pollution, may affect the physical and mental health of the Crees. These impacts compromise their right to a healthy environment and an adequate quality of life. Stress, anxiety and a loss of confidence in the environment are exacerbated by the fear of seeing their way of life threatened.

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Demographic changes induced by the project may increase the risk of violence, particularly towards women, indigenous people and members of 2SLGBTQI+ communities. These dynamics raise significant concerns about safety, social justice and respect for human rights. Camp working conditions, long hours and isolation can also affect mental health and family relationships, particularly among already marginalized populations.

24.4.1.2 Mitigation and Enhancement Measures

The following mitigation measures have been incorporated into the project design phase and/or are proposed to reduce the project's impacts on Rights and Interests of the Cree:

- Limit the Project footprint to what is strictly necessary.
- Limit the opening of new roads and accesses to what is strictly necessary.
- Involve affected tallymen/land users in the management of nuisance animals and animals in general in the PDA, including along the mine access road.
- Offer land users the opportunity to harvest nuisance animals and allow them sufficient time to do so.
- Relocate the camps in the Lake A area (PE43).
- Spread dust suppressant on the access road (at-risk sections) to the mine site and on roads within the PDA.
- Provide mandatory cultural awareness training for all new employees, with the aim of maintaining good neighbourly relations and fostering respect.
- Regularly inform land users of upcoming activities at the mine site, particularly those that may disrupt land use, e.g., blasting schedules.
- Explain the EMP to land users and provide updates.
- The preliminary design of the closure plan for the Troilus site was the subject of consultations with land users. The final closure and reclamation plan and the question of future uses of the reclaimed land will be developed later, in collaboration with government agencies, indigenous communities and land users.
- Progressive restoration and reclamation of the site for various developments such as TSF, certain waste rock piles and open pits, so that the various developments will be restored and revegetated at the end of their operations to facilitate final site reclamation.
- Ensure gentler slopes for the waste rock piles compared to the historic project and revegetate these slopes during closure.
- Troilus will continue its communication and collaboration with the Nibiischii Corporation, the Cree community of Mistissini and land users to ensure cohabitation between the uses of the mine, the reserve and land users.
- Use native plants valued by local wildlife during revegetation when restoring the site.
- The mine site will be off-limits to the public, and signs and signals will be posted to inform people of the mine's presence.

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- Employees will not be allowed to use their vehicles to get to the mine site; they will have to take the transportation service provided by Troilus from one of the home points located in the neighboring communities of Mistissini, Oujé-Bougoumou, Chibougamau and Chapais.
- The proposed layout for the Bibou Creek diversion was developed in consultation, to provide fish habitat and maintain fish passage between PE2 (Lac Amont) and PE43 (Lac A). The creek diversion will be designed to meet the requirements of the Ministry of Environment, the Fight Against Climate Change, Wildlife and Parks (MELCCFP) and the Department of Fisheries and Oceans (DFO), and to take into account the requests of land users.
- Hunting and fishing are prohibited for mine employees, thus avoiding conflicts of use with visitors to reserves and land users.
- A concern and complaint management mechanism will be set up and will be available on the Troilus website.

In addition, the implementation of specific mitigation measures for the following VCs will mitigate impacts on Rights and Interests of the Crees: Atmospheric conditions, including dust (Chapter 8), Acoustic Environment (Chapter 9), Surface Water Quality (Chapter 12), Vegetation, Riparian and Wetland Areas (Chapter 16), Terrestrial and Avian Fauna (Chapter 17), Fish and Fish Habitat (Chapter 18) and Landscape (Chapter 23).

24.4.1.3 Project Residual Impacts

Considering the implementation of mitigation measures, the magnitude of the residual adverse impact on Rights and Interests of the Crees will be negligible and limited to the RSA, no sensitivity, will extend over the long term, will occur on a continuous basis and will be reversible. The residual impact is considered negligible.

Indeed, Troilus is committed to continuing to engage Cree stakeholders to understand and mitigate project impacts on their rights and interests, explore opportunities to enhance project benefits, and consider their recommendations and input on project decisions, including the development of master plans and offsets (e.g., construction master plan; social and economic impact management plan). Through this ongoing collaboration, Troilus aims to foster a positive long-term relationship with the Cree Nations of Mistissini and Oujé-Bougoumou throughout the life of the project. As an example, Troilus is committed to taking traditional and cultural activities into consideration in order to propose measures that allow for the ongoing participation of indigenous employees.

24.4.2 Changes in Land and Resources use

24.4.2.1 Project Pathways

Deforestation, earthworks, relocation of access roads and power lines, and construction of mining buildings and infrastructure could result in the loss of harvesting sites and disrupt Cree use of the land. During operation, blasting and ore processing could cause additional nuisance, affecting resources and recreational activities. In addition, temporary access restrictions could arise during all phases of the project, limiting or disrupting travel on the land. Water and waste management could also result in the

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loss of harvesting sites. Finally, navigation could be affected by changes to water bodies and their hydrology.

24.4.2.2 Mitigation measures

The following mitigation measures have been incorporated into the project design phase and/or are proposed to reduce the project's impacts on Cree land and resource use:

- Limit the Project footprint to what is strictly necessary.
- Limit the opening of new roads and accesses to what is strictly necessary.
- Involve affected tallymen/land users in pest and general animal management in the PDA, including along the mine access road.
- Offer land users the opportunity to harvest nuisance animals and allow them sufficient time to do so.
- Relocate the camps located in the Lake A sector (PE43).
- Spread dust suppressant on the access road (at-risk sections) to the mine site and on roads within the PDA.
- Provide mandatory cultural awareness training for all new employees, with the aim of maintaining good neighbourly relations and fostering respect.
- Regularly inform land users of upcoming activities at the mine site, particularly those that could disrupt land use, e.g., blasting schedules.
- Explain the EMP plan to land users and provide them with updates.
- The preliminary design of the closure plan for the Troilus site was subject to consultation with land users. The final closure and reclamation plan and the question of future uses of the reclaimed land will be developed later, in collaboration with government agencies, indigenous communities and land users.
- Progressive restoration and reclamation of the site for various developments such as the TSF, certain waste rock piles and open pits, so that the various developments will be restored and revegetated at the end of their operations to facilitate the final restoration of the site.
- Ensure gentler slopes for the waste rock piles compared to the historic project, revegetating these slopes during closure.
- Troilus will continue its communication and collaboration with the Nibiischii Corporation, the Cree community of Mistissini and land users to ensure cohabitation between the uses of the mine, the reserve and land users.
- Use native plants valued by local wildlife during revegetation when restoring the site.
- The mine site will be off-limits to the public, and signs and signals will be posted to inform people of the mine's presence.

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- Employees will not be allowed to use their vehicles to get to the mine site; they will have to take the transportation service provided by Troilus from one of the home points located in the neighboring communities of Mistissini, Oujé-Bougoumou, Chibougamau and Chapais.
- The proposed Bibou Creek diversion has been the subject of consultation and has been designed to provide fish habitat and maintain fish passage between Lake PE2 (Lac Amont) and Lake PE43 (Lac A). The creek diversion will be designed to meet the requirements of the MELCCFP and DFO, and to take into account the requests of land users.
- Hunting and fishing are prohibited for mine employees, thus avoiding conflicts with reserve visitors and land users.
- A concern and complaint management mechanism will be set up and will be available on the Troilus website.

In addition, the implementation of specific mitigation measures for the following VCs will mitigate impacts on Cree land use: air quality, including dust (Chapter 8), Acoustic Environment (Chapter 9), Surface Water Quality (Chapter 12), Vegetation, Riparian and Wetland Environments (Chapter 16), Terrestrial and Avian Fauna (Chapter 17), Fish and Fish Habitat (Chapter 18) and Landscape (Chapter 23).

24.4.2.3 Residual impacts of the project

Deforestation, earthworks, relocation of part of the access road and power line, and construction of buildings, roads, mining infrastructure and water management systems could result in the loss of harvesting sites in the PDA and reduced harvesting success in the LSA. In addition, the nuisance caused by these activities, as well as the transportation of equipment and labour, and the presence of the workforce, could disrupt the use of the land and resources by the Crees or for recreational purposes.

Furthermore, during the operational phase, blasting, ore extraction, processing and transportation, as well as the transportation of equipment, could cause nuisances that could disrupt Cree land and resource use or recreational activities and reduce harvesting success in the LSA. That said, as indicated in Chapter 9.4.2.3, vibrations will occur only occasionally during the construction and operation phases. Moreover, given the distance between the mining facilities and the nearest receptors, residual noise and vibration impacts are expected to be low, short-lived and reversible once project activities are completed.

In addition, as mentioned in chapter 20.4.3.3, impacts on road infrastructure will vary for LSA/RSA communities, with those in the Mistissini community being the most affected. Transportation of the mining concentrate will be the main activity, with two routes envisaged: one impacting Oujé-Bougoumou and Chapais more, and the other avoiding the town centers by passing through Saguenay. However, the risk of road accidents remains higher throughout the life of the project. This increase in transportation could have the effect of disrupting Cree land and resource use.

Employees will not be allowed to use their vehicles to get to the mine site; they will have to use the transportation service provided by Troilus from home base points in the nearby communities of Mistissini, Oujé-Bougoumou, Chibougamau and Chapais. The movement of labour and the presence of labour could also cause nuisance within the LSA for land users. The presence of the workforce could increase pressure on resources. Although only the activity related to the purchase of goods and services does not

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interact with this VC - since it does not entail any footprint on the site or any potential to disrupt resource development activities on the project site - the delivery and transportation of these goods and services will result in increased traffic volumes on the Route du Nord and the mine access road. The potential for disturbance is considered minimal.

Water management and treatment at the mine site and in the environment, as well as waste management, could result in the loss of harvesting sites.

Restrictions on access to areas used by the Crees or for recreational purposes could occur sporadically during the construction, operation and closure phases, but are expected to be temporary in nature.

During the restoration and closure phase, although the intensity of nuisances is expected to diminish, the transportation of equipment and labour, the presence of labour and restoration work as such will still have the potential to disrupt Cree or recreational use of the land and resources.

As for navigation, only activities that directly affect water bodies and watercourses are likely to affect it. These activities, by encroaching on aquatic environments or modifying their hydrology, are likely to modify access to these bodies of water, as well as the practice of navigation by Cree users (for travel, fishing or hunting) or for recreational purposes. Activities with a footprint on the land or involving the use of labour and consumable goods would not interact with navigation.

Finally, the project's potential interactions with commercial land and resource use were examined, but this potential impact was not included in the assessment of residual impacts, given its unmeasurable scale. In fact, no forestry activity has been reported for many years in the vicinity of the PDA, which lies within an interim caribou protection zone and is free of forestry activities until the implementation of the Woodland and Mountain Caribou Strategy. Only an area of about 300 m² to the southwest of the PDA could be exploited for its forest resources. Information provided by Troilus indicates current logging to the southwest of the LSA. With regard to the mining industry, a search of mining leases and information provided by land users revealed that companies other than Troilus are conducting exploration activities in the southern part of the LSA.

With the implementation of mitigation measures, the residual impact on land and resource use will be adverse, of moderate magnitude and limited to the LSA, of moderate to high sensitivity, long-term, ongoing and reversible.

24.4.3 Changes in Social and Economic Conditions

24.4.3.1 Project Pathways

Chapter 20 of the ESIA presents three pathways, one of which concerns Cree interests: demand for services and infrastructure. Changes in demand for services and infrastructure may occur as a result of population growth in the LSA/RSA during the project construction and operation periods. The settlement of new employees and their families in the communities of Chibougamau and Chapais may result in additional pressure on services and infrastructure such as health, emergency, education and municipal services. In addition, emergency and health services could also be called upon during mine operations to

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meet the needs of workers or following project-related accidents. Similarly, the establishment of a workers' camp could put additional pressure on municipal waste management services.

The arrival and settlement of new foreign employees in LSA/RSA communities could lead to conflicts between the local population and new arrivals employed by the mine. Issues of income disparity with the local population may also be one of the causes of these tensions and conflicts, just as the increase in income may also aggravate certain problems linked to alcohol and drug consumption and thus increase demand on the police service.

The arrival of female employees with children will increase the need for childcare services and schools and could put additional pressure on these services in the LSA/RSA. Similarly, the settlement of these families could be accompanied by additional demand on municipal services such as drinking water supply and wastewater and residual materials management.

A positive impact on services and infrastructures is also foreseeable following the settlement of new workers in the area and their economic contribution to the towns and region, which would enable the tax burden on housing to be redistributed according to a greater number of residents. The need for skilled local labour in the mining sector will also have a positive impact on education services and vocational training centers.

As the increase in the Cree communities is not anticipated, no impact on services and infrastructure in Indigenous communities is expected. Nevertheless, Cree community members could be collaterally affected by the increased demand for services and infrastructure.

When the mine closes, the potential departure of employees and their families to new places to work and live is not expected to affect municipal services and infrastructure. If the current situation of staff shortages in childcare, health and emergency services were to continue over the years, the pressure on these services could then diminish as a result of these departures. Increased demand for police and emergency services may, however, be required during the closure and restoration phase, in order to respond to any incidents related to this stage of the project.

Chapter 21 presents three economic pathways for the Troilus mining project, two of which concern Cree interests: employment and business activity. The project is expected to generate significant benefits in terms of direct, indirect and induced employment, while boosting income and tax revenues. However, adverse impacts are also anticipated, including pressure on local wages and increased competition for labour.

24.4.3.2 Mitigation measures

The following mitigation measures have been incorporated into the project design and/or are proposed to avoid or reduce the employment impacts of the project:

- Troilus is committed to prioritizing the hiring of people from local communities and from the region to the extent that qualified candidates are available.

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- Troilus continues to explore education and training opportunities and will develop hiring practices that encourage the employment and retention of qualified Indigenous workers and local community members, including opportunities targeted at youth.
- Troilus will explore opportunities to support training, education and scholarship programs that enhance employment opportunities, including participation in and contribution to local training networks for diverse groups such as Indigenous people and various relevant sub-groups, and the Indigenous Skills and Employment Training Program.
- Troilus will take traditional and cultural activities into consideration in proposing measures to enable the ongoing participation of indigenous employees. Further details will be set out in the Impact and Benefits Agreement (IBA).
- Troilus will develop and implement a diversity and inclusion policy, which encompasses respectful workplace behaviours for various groups such as Indigenous people. This policy and the resulting training consist of awareness training for Troilus employees to foster respectful working relationships with indigenous employees, visible minorities and subcontractors.
- An advisory committee has been set up with the Cree Nation of Mistissini to deal with issues such as employment. This committee will be maintained through ERA.
- Troilus will prepare and implement plans, programs and policies to encourage contracting and procurement opportunities for Indigenous businesses. These plans will include the enhancement of supplier network development initiatives, including the maintenance of a directory of local and Indigenous suppliers likely to bid on the project. Troilus will develop a clear communication procedure to establish procurement opportunities for Cree communities and will consider any barriers that may exist in the bidding process for a contract (such as translation services), where possible.
- Troilus is committed to giving priority consideration to bids from qualified local businesses, including those submitted by diverse groups such as Indigenous businesses, in accordance with Troilus' local procurement policy.

24.4.3.3 Residual Impacts of the Project

The Troilus mining project will result in both positive and adverse residual economic impacts, varying according to the phases of the project (construction, operation, closure). Positive impacts include direct, indirect and induced job creation, increased household incomes, and the stimulation of indigenous business activity. These impacts are particularly marked during construction and operation, with investments estimated at over 12 billion dollars. However, adverse impacts are anticipated, including upward pressure on wages, increased competition for local labour, and loss of jobs and income when the project closes. These impacts are considered moderate to high, depending on their magnitude and duration, some being reversible (during the active phases of the project), others irreversible (at closure). Mitigation and enhancement measures are planned to maximize positive spinoffs and reduce adverse impacts, notably through local hiring, diversity and inclusion policies, and partnerships with indigenous communities.

With the implementation of mitigation and enhancement measures, the residual impacts of the project on the social and economic conditions of the LSA are expected to be positive and of high magnitude during

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construction and operation. Adverse impacts of moderate magnitude are expected when the project transitions from operation to reclamation and closure (i.e. loss of direct employment). Both positive and adverse impacts are expected to extend into the RSA. Impacts are of short duration during construction, reclamation and closure, and of medium duration during operation. Impacts occur continuously during each phase of the project and are reversible after completion of construction and operation; however, they are irreversible after completion of reclamation and closure due to the potential permanent loss of project-related jobs.

24.4.4 Changes in Sanitary Conditions

24.4.4.1 Project Pathways

Chapter 22 details the pathway related to changes in health conditions, while the following paragraphs summarize information related to Cree health.

Changes in land use related to the mining project may affect food security, particularly for Cree who rely heavily on hunting, fishing and gathering. Reduced access to the land and disturbance of wildlife may lead to a decrease in the consumption of traditional foods, pushing people towards market foods that are often less nutritious. This can increase the risk of chronic diseases such as diabetes and cardiovascular disease. These changes also have repercussions on the sense of community belonging, family dynamics and cultural practices, particularly among indigenous peoples for whom the land is central to identity, spirituality and social cohesion.

Environmental quality could also deteriorate as a result of contaminant emissions into the air, water and soil, affecting physical and mental health. Concerns about contamination of traditional foods and water sources can lead to stress, anxiety and a loss of confidence in the environment. Noise, light and vibration associated with mining activities can disrupt sleep, generate irritation and impair general well-being. These impacts are exacerbated by fear of environmental degradation, which can reduce participation in cultural activities and undermine a sense of belonging. Changes in environmental quality can affect not only physical health through exposure to toxic substances, but also mental health by generating fear, anxiety and a loss of confidence in the environment. Members of the Cree communities have expressed concerns about the contamination of drinking water, fish and wildlife, as well as the loss of flora and fauna. These perceptions can lead to a reduction in the consumption of traditional foods, which is detrimental to food security and overall health. In addition, noise, light and vibration pollution can disrupt sleep, provoke irritability and affect psychological well-being. These impacts are of particular concern in areas such as the Assinica reserve, which is in the process of becoming a Dark Sky Reserve.

In addition, the massive influx of workers into the region could alter demographic dynamics, putting pressure on services, housing and food resources. This may also lead to social tensions, risky behaviours (substance abuse, violence) and a potential increase in crime, particularly against women and indigenous people. Changes in demographic dynamics, caused by the massive influx of workers, can also have a significant impact on the health and well-being of local communities. Population growth can put pressure on food resources, housing and social services. Temporary workers, often housed in camps, can be isolated from the community, fostering a work culture marked by hegemonic masculinity and risky behaviours such as drug and alcohol use. These behaviours can have indirect impacts on surrounding

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communities, including an increase in sexually transmitted infections and violence, particularly against women and indigenous people.

Long working hours and camp living conditions can affect mental health, family relationships and sleep quality. These impacts are often felt disproportionately by women, children, indigenous people and 2SLGBTQI+ communities, underlining the importance of an inclusive and socially sensitive approach in assessing project impacts. Family relationships can be affected by demanding work schedules (e.g. 14 days of work followed by 14 days of rest), which create a separation between work and family life. This separation can lead to stress, family conflict and deteriorating mental health. Partners of rotating workers may experience increased psychological distress, and children may suffer from the prolonged absence of a parent. In addition, night-time working conditions can lead to sleep disorders and reduced cognitive function, particularly among workers with low levels of education.

Finally, population growth can lead to higher crime rates, including sexual assault, sex trafficking and domestic violence. Indigenous women and girls, as well as 2SLGBTQI+ people, are particularly vulnerable to these forms of violence. Communities have stressed the importance of putting in place safety measures, monitoring committees and mental health support services to prevent these impacts. Troilus is planning efforts to encourage local hiring, improve community infrastructure and provide training, but these measures will need to be accompanied by constant vigilance to ensure the safety and well-being of all groups involved.

24.4.4.2 Mitigation and Enhancement Measures

Troilus is committed to implementing the following codes of conduct and policies relating to the diversity, inclusion and safety of its workforce. A full description of these codes and policies can be found in Chapter 3 (Project description):

- Supplier code of conduct;
- Whistle-blowing policy;
- Code of business conduct and ethics;
- Sustainable development and policy;
- Drug and alcohol policy;
- Environment, Health and Safety Policy;
- Anti-corruption policy;
- Local procurement policy;
- Occupational health and safety prevention program;
- Employee family assistance program;
- Cultural awareness training.

The assessment of residual impacts on health conditions is based on the corresponding VCs and uses the analytical assessment techniques and assumptions identified in the Atmospheric Conditions (Chapter

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8), Acoustic Environment (Chapter 9), Surface Water Quality (Chapter 12), Economic Conditions (Chapter 21) and Land and Resources Use (Chapter 19) of the ESIA.

The following measures will be incorporated into the project design to avoid or reduce project impacts on Atmospheric Conditions (see Chapter 8) with respect to potential changes in health conditions:

- Troilus will develop a dust management plan.
- Troilus will develop an air quality monitoring program to control selected contaminants of potential concerns (CoPCs) which may include dust (PM and/or PM_{2.5}) metals in PM, quartz and NO₂ at selected off-site locations during construction and operation. This program will specify the proposed ambient air quality monitoring program, including the type of monitoring, the CoPCs to be monitored and the frequency of monitoring.
- Troilus will optimize the road network design and operating schedule to reduce transportation distances.
- Project lighting (location, intensity) will be limited to what is necessary to ensure safe and efficient project operations.
- Troilus will use lighting fixtures that limit or focus lighting on targeted areas and prevent light from illuminating all the area.
- Troilus will limit the projection of light into the sky by using lights that meet actual lighting needs.
- Troilus will avoid emitting light at angles greater than 90 degrees, using lights with known cut-off specifications.
- Mobile and permanent lighting will be positioned so that unavoidable light from the work area is not directed towards receptors outside mine area, wherever possible.
- Troilus will design exterior lighting systems for project operations to include directional lighting to limit light trespass and avoid glare. Downward-facing full cutoff luminaires will be incorporated into the project lighting plan (where possible), and portable lighting will be positioned to limit visibility outside the PDA.
- Lighting during closure will follow the same principles as for the construction phase of the project.

The following measures will be incorporated into the project design to avoid or reduce the impacts of the project on the Acoustic Environment (see Chapter 9) with regard to potential changes in health conditions:

- Noise monitoring is to be carried out at the sensitive receptors closest to the mine during each phase of the project, construction (year -1) and operation (year +6).
- Wherever possible, equipment should be selected to generate the lowest noise levels, and mufflers should be used where possible.
- Respect travel speeds during transport activities.
- Blasting operations should be optimized to minimize the quantity of explosives to be detonated simultaneously, so that vibrations are barely perceptible to the nearest receptors.

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- Blasting operations must be carried out during the day and at fixed times.
- Use electronic detonators to ensure precise synchronization of explosive charges and better control of detonation.
- Follow an optimized operating protocol to limit major seismic events, adapting it as required.

The following measures will be incorporated into the project design to avoid or reduce project impacts on surface water (see Chapter 12) with regard to potential changes in health status:

- Road crossings will be installed to ensure continuous flow through the Bibou Creek diversion channels. On the DC1 canal, arched culverts will be designed to improve fish passage.
- Surface water and groundwater monitoring stations will be set up to collect water quantity and quality data for regulatory compliance monitoring.
- At the end of operations, an emergency spillway will be installed at the TSF to control water levels in an outlet channel running north to the future pit lake. The spillway will be operated in such a way as to be able to respond to extreme flood scenarios without risk to the safety of the TSF. Landfill, overburden piles and the tailings beach will be reprofiled and capped to promote efficient, erosion-resistant flow paths.
- At the end of the project, a 5.2-kilometre permanent watercourse will be maintained upstream of the Bibou Creek diversion channel. The channel will be designed to allow the establishment of aquatic habitat in this section of the channel during operation.

The following measures will be incorporated into the project design to avoid or reduce the project's impacts on the economy (see Chapter 21) with respect to potential changes in health conditions:

- Troilus is committed to hiring people from the local communities and the region to the extent that qualified candidates are available.
- Troilus is in regular communication with local training and education institutions regarding existing, upcoming and potential training courses and offerings, and how they align with Troilus' anticipated needs. Troilus continues to explore education and training opportunities. It will also develop hiring practices that encourage the employment and retention of skilled indigenous workers and local community members, including opportunities targeted at youth.
- Troilus will explore opportunities to support training, education and scholarship programs that enhance employment opportunities. This includes participating in and contributing to local training networks, which cater to diverse groups such as Cree nations, local youth and various relevant sub-groups, such as the Indigenous Skills and Employment Training program.
- Troilus will take into consideration traditional and cultural activities in order to propose measures allowing for the ongoing participation of Indigenous employees.
- Employee schedules will be adapted to the needs of the community and the work-life balance.
- Troilus will develop and implement a diversity and inclusion policy, which encompasses respectful workplace behaviours for diverse groups such as Cree Nations, local youth, seniors, 2SLGBTQI+, visible minorities, people with disabilities and other members of the GBA community+. This policy and

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the training it entail are designed to raise awareness among non-Indigenous employees to foster respectful working relationships with Indigenous employees and subcontractors.

- Troilus will implement measures to encourage and increase the participation of women in the mining industry, such as training opportunities and targeted job offers for women, as well as workplace policies to eliminate harassment and discrimination.
- An integration committee will be set up with the Jamesian communities (Chapais/Chibougamau) to address employment issues and opportunities.
- An advisory committee has been set up with the Cree Nation of Mistissini to address issues such as employment.
- Troilus will prepare and implement plans, programs and policies to encourage contracting and procurement opportunities for Cree and local businesses. These plans will include enhanced supplier development initiatives, including the maintenance of a directory of local and Cree suppliers likely to bid on the project. Troilus will establish a clear and secure communication procedure to establish procurement opportunities for the Cree and Jamesian communities. Where possible, Troilus will also address potential barriers to bidding (such as the need for translation services) to support inclusive participation.

The following measures will be incorporated into the project design to avoid or reduce the project's impacts on Land and Resources Use (see Chapter 19) regarding potential changes in health conditions:

- Limit deforestation to areas necessary for development.
- Prevent the introduction of invasive plant species during all phases of the project.
- Plan for revegetation and reclamation of the site at the end of the operating period.

In addition, the following measures will be incorporated into the project design to avoid or reduce project impacts on services and infrastructure (see Chapter 20), and will relate to potential changes in health conditions:

- Health and emergency services will be available on the mine site, as in historic mining operations.
- A nurse will be present on site 24 hours a day, assisted, if necessary, by a physician assigned to the project.
- Coordination with emergency infrastructures will be put in place during the development of Troilus' occupational health and safety prevention program to unify disaster response efforts.
- Employees will not be allowed to use their vehicles to travel to the mine site. Transportation services will be provided by Troilus from one of the docking points located in the nearby communities of Mistissini, Oujé-Bougoumou, Chapais and Chibougamau.
- Troilus will continue to work with the Ministère des Transports et de la Mobilité durable (MTMD), as well as with the communities concerned, to select the least impactful route for transporting the copper and gold concentrate.

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- Troilus will ensure that the transport standards (load and dimensions) of the various existing roads crossed by the project are respected and will coordinate with the MTMD in the event of standards being exceeded.
- Standard road safety measures will be implemented, such as speed rules, especially when crossing communities, radio communications, escorting non-standard transports and optimizing transport schedules for copper and gold concentrates.
- Truck movements can be grouped into convoys, and timetables can be adapted to summer periods and the greater use of major roads such as the Route du Nord.
- Health and safety training will be offered to employees to raise their awareness of safe driving (respect for speed limits, traffic speeds, signs).
- A mechanism for managing concerns will be put in place and will be available on the Troilus website.

24.4.4.3 Residual Impacts of the Project

Chapter 22.4.3 of the ESIA presents residual impacts on health conditions, both positive and adverse, which vary according to social, environmental and economic dimensions. Changes in land use, including the availability of traditional foods and family dynamics, may affect the food security and sense of belonging of communities, particularly indigenous communities. However, mitigation measures are planned, such as adapting work schedules to community needs and promoting the cultural participation of indigenous employees.

On the environmental front, although impacts on soil, water and food quality are considered limited, concerns remain over potential mercury contamination of fish. Water and food quality monitoring programs are recommended to reassure communities and adjust measures according to results. In terms of air quality, predicted concentrations of NO₂ and PM_{2.5} exceed acceptable thresholds at some locations, notably the workers' camp. Dust management and air quality monitoring plans will be implemented to reduce these risks.

Although living conditions in the workers' camps are well governed by health and safety policies, they can nonetheless give rise to stress related to family estrangement. Support services such as an employee assistance program and the presence of an on-site nurse are designed to mitigate these impacts. Finally, the project's economic spin-offs are significant, with job creation and increased income, but they can also lead to pressure on the local job market and social imbalances, particularly in terms of sexual health and substance use. Overall, residual impacts are considered low to moderate, local to regional in scope, temporary and reversible.

With the implementation of mitigation measures, the residual impact on health conditions is assessed as either positive or adverse depending on the case, of low to moderate magnitude and confined to the local study area (for biophysical changes) and the regional study area (for social changes). They are of short to medium duration, appearing irregularly or regularly depending on the project phases, but are considered reversible.

This is because, although some impacts may raise concerns - notably in terms of air quality, mental health, food security or social cohesion - the planned mitigation measures, follow-up programs and

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community and workplace support mechanisms should make it possible to limit the extent and duration of impacts. The project, while generating economic and social benefits, will therefore need to be accompanied by rigorous monitoring to ensure that risks to human health remain under control and that positive spin-offs are maximized.

24.4.5 Summary of Project Residual Impacts

Table 24.6 summarizes the residual impacts on Rights and Interests of the Cree.

Table 24.6 Residual impacts of the project on Rights and Interests of the Cree

Residual impact	Characterization of residual impacts							
	Project phase	Direction	Magnitude	Geographic Extent	Timing	Duration	Frequency	Reversibility
Changes in rights and interests	C/E/D	N	NMC	RSA	NS	LT	C	R
Change in land and resource use	C/E/D	N	M	LSA	MS to HS	LT	C	R
Changes in social and economic conditions	C/E/D	P/A	H/M	LSA/RSA	NS	ST/MT	C	R/
Changes in sanitary conditions	C/E/D	P/A	L/M	LSA/RSA	NS	ST/MT	IR/R	R

Project phase:

C: Construction
E: Operation
D: Decommissioning and closure

Direction:

P: Positive
A: Adverse

Magnitude:

NMC: No Measurable Change
L: Low
M: Moderate
H: High

Geographic extent:

PDA: Project Development Area
LSA: Local Study Area
RSA: Regional Study Area

Timing:

NS: No sensitivity
MS: Moderate sensitivity
HS: High sensitivity

Duration:

ST: Short-term
MT: Medium-term
LT: Long-term

n/a Not applicable

Frequency:

S: Single event
IR: Irregular event
R: Regular event
C: Continuous

Reversibility:

R: Reversible
I: Irreversible

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24.4.5.1 Summary of Project Residual Adverse impacts

Rights and Interests of the Crees

The Troilus mining project entails certain residual impacts likely to compromise Cree interests and the exercise of their fundamental rights, particularly in terms of access to the territory, food security, health and socioeconomic equity. The loss of harvesting sites and reduced harvesting success, caused by work, transportation and the presence of labour, directly affect the Cree's right to maintain their traditional subsistence practices. The nuisances associated with harvesting, although considered isolated, as well as access restrictions and hydrological modifications, are likely to disrupt traditional uses of the territory.

In economic terms, the project's spin-offs may not benefit the Cree population equally. Increased competition for labour, pressure on wages and difficulties in retaining local personnel could exacerbate existing inequalities. When the project closes, the loss of direct and indirect jobs will lead to a significant reduction in income in the region, which could compromise the Cree communities' right to sustainable development.

In terms of health, the risks of exposure to mercury through fish consumption, possible exceedances of health thresholds for certain atmospheric pollutants, and the disruption of wildlife corridors raise concerns. These impacts may affect food security, physical and mental health, and the sense of belonging that is essential to Cree social cohesion. Furthermore, the presence of workers and the resulting social dynamics could increase the risk of discrimination, violence and transmission of infections, disproportionately affecting women and Indigenous peoples. These impacts, though partially mitigable, constitute potential infringements of the Cree's rights to health, safety and dignity.

Land use

The mining project will result in the loss of harvesting sites for the Crees and a reduction in their harvesting success, due to construction work, transportation and the presence of workers. Harvesting-related nuisances, such as blasting and traffic, could disrupt traditional uses, despite impacts considered to be one-off. Access restrictions and hydrological modifications could also limit access to certain bodies of water, although measures have been taken to preserve aquatic habitats. With regard to navigation, although certain access points will be removed, the water bodies concerned are not considered navigable, and Cree rights of way will be maintained. The main lakes used for recreational navigation will remain accessible.

Economic Conditions

The Troilus mining project presents a number of residual adverse impacts, mainly related to pressure on local human and economic resources. During the construction, operation and closure phases, undesirable impacts are anticipated, including increased competition for local labour, upward pressure on wages, and difficulties for local businesses to retain employees. When the project closes, the loss of direct and indirect jobs will lead to a significant reduction in income and economic spin-offs in the region, which constitutes an irreversible impact. In addition, although mitigation measures are planned, the economic benefits may not accrue equitably to all sub-populations, including Indigenous peoples, which could accentuate existing inequalities.

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Health

The assessment of the residual impacts of the mining project highlights several health risks, particularly for Indigenous populations. Consumption of fish, for example, represents a complete route of exposure to metals, particularly mercury, which is already a cause for concern in the region. As far as surface waters are concerned, and although measured concentrations are generally below Health Canada thresholds, uncertainties remain as to the evolution of their quality. Modeled concentrations of NO₂ and fine particulate matter (PM_{2.5}) could exceed health thresholds. These contaminants, with no safe threshold, require rigorous monitoring and mitigation measures. Project activities could also alter wildlife movement corridors, affecting food security and cultural practices, with repercussions on social cohesion and sense of belonging. Perceived or actual changes in the environment could reduce accessibility to traditional foods, affecting physical health, cultural practices and recreational activities. The presence of workers could lead to an increase in sexually transmitted infections, discrimination and behaviours associated with a dominant male culture. Some of these risks are beyond Troilus' direct control.

24.4.5.2 Summary of Project Positive Residual Impacts

Rights and Interests of the Crees

Despite the adverse impacts identified, some positive residual impacts of the mining project may contribute, indirectly, to supporting certain Rights and Interests of the Cree. Firstly, maintaining access to the main bodies of water used for recreational boating, as well as preserving the Cree's rights of way, supports their right to free movement on the territory. In addition, water developments such as the Bibou Creek diversion have been designed with aquatic habitat preservation in mind, a measure favourable to the protection of traditional resources.

On the economic front, the project could offer employment and development opportunities for members of the Cree communities, particularly if targeted efforts are made to encourage their participation. The potential improvement in economic conditions, through access to stable and remunerative employment, can reinforce individual and collective autonomy, thus contributing to the exercise of the Cree communities' right to development.

Finally, from a broader perspective, recognition of the concerns expressed by the Crees in project planning, and the implementation of certain mitigation measures, constitute a willingness to engage in dialogue and take account of their collective rights and interests. These elements, though limited, are levers from which the Crees could strengthen their power of influence in future decision-making processes related to the development of their territory.

Economic Conditions

The Troilus mining project generates several significant positive economic impacts. It will contribute to the creation of thousands of direct, indirect and induced jobs during the construction and operation phases, with significant spin-offs for household incomes, reduced unemployment and the development of local skills. The project also stimulates the activity of local businesses through supply contracts and targeted investments, while strengthening the regional economy. Specific measures are implemented to promote

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the inclusion of under-represented groups, including First Nations people, thereby increasing their economic participation.

Health

The project's positive residual impacts on health conditions mainly concern strengthening the sense of community belonging and improving economic conditions. Belonging to a community is a key determinant of positive mental health and social well-being, which are closely linked to community safety and crime reduction. In addition, the anticipated economic benefits of the project, particularly in terms of employment and the revitalization of local businesses, are likely to contribute to a general improvement in health status, as increased employment rates are recognized as a factor favourable to physical and mental health.