Kami

Newfoundland and Labrador

Kami Mining Project

Environmental Impact Statement

Champion Kami Partner Inc.

Wabush, NL

July 2025

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Wabush, NL

Executive Summary

Environmental Impact Statement

Document Number: CA00387135261-R-Rev0-Executive Summary

July 2025

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1. Introduction

Champion Kami Partner Inc. (Champion) is submitting this Environmental Impact Statement (EIS) for the proposed development of a new iron ore mining and milling operation in Labrador West, called the Kamistiatusset (Kami) Mining Project (the Project), in the Province of Newfoundland and Labrador (NL). The Project site is located entirely in Labrador, approximately 7 km southwest of the Town of Wabush, 10 km southwest of the town of Labrador City, and 5 km northeast of the Town of Fermont, Québec.

Champion has prepared this EIS in support of the environmental assessment (EA) for the Project, establishing an experienced team of subject matter experts and qualitied professionals to conduct technical studies; engage with Indigenous communities, local communities, regulators, and public stakeholders; and prepare the EIS. The EIS satisfies the requirements of the *Environmental Assessment Regulations, 2003*, under the provincial *Environmental Protection Act*, and the requirements outlined in the Environmental Impact Statement Guidelines for Kami Iron Ore Mine, Labrador West, NL, Champion Iron Mines Ltd. (EIS Guidelines) issued by the NL Minister of Environment and Climate Change (the Minister) on December 19, 2024 (Government of NL 2024). A concordance table is presented in **Appendix ES-A** outlining the EIS Guideline requirements and the section of the EIS where this requirement is addressed.

The Project was originally proposed by the Alderon Iron Ore Corporation (Alderon) and underwent a provincial and federal EA, under the framework of the provincial *Environmental Protection Act* and the former federal *Canadian Environmental Assessment Act*. The Project received approval and release from both regulatory processes in 2014, with commitments to several mitigation and follow-up programs as conditions.

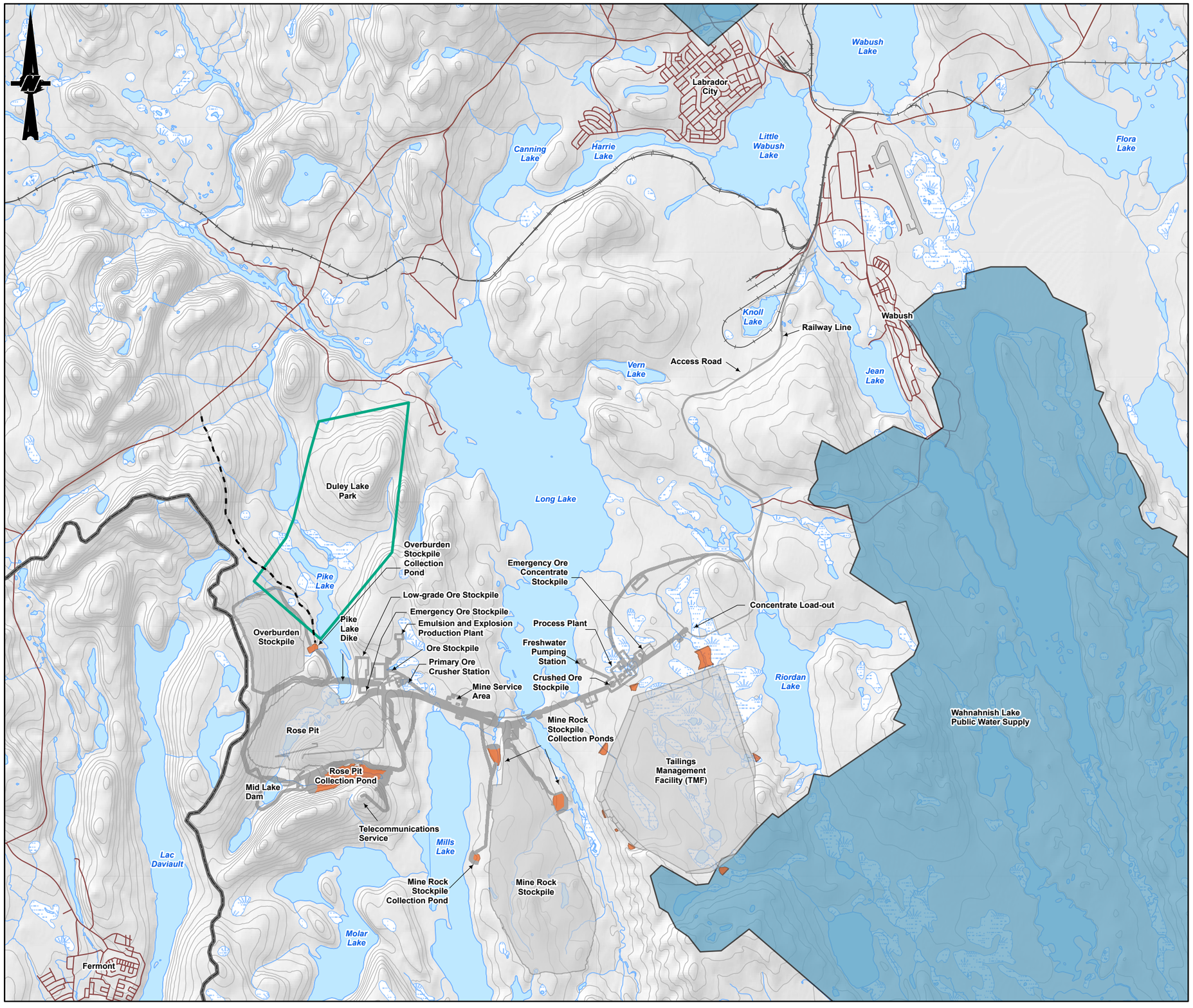
Section 17 of the *Environmental Assessment Regulations, 2003* indicates that if a released undertaking has not commenced after three years of its release, the release is void unless an extension is made by the Minister or Lieutenant-Governor in Council for up to three additional periods of one year each. No such extensions were requested or granted for the Project and the previous release was voided. Champion submitted a new Project Registration document (WSP 2024) to the NL Department of Environment and Climate Change (the Department) in April 2024 to restart the provincial EA process for the Project.

On June 19, 2024, the Impact Assessment Agency of Canada confirmed that the current federal *Impact Assessment Act* does not apply to the Project because it had previously undergone a federal comprehensive study and received a determination under the previous *Canadian Environmental Assessment Act*. To this end, the Project will follow the provincial EA process only.

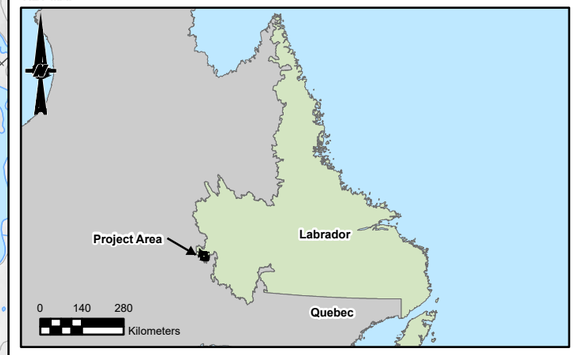
1.1 Project Overview

The Project will involve the construction, operation, and eventual closure of an open pit high-purity iron ore mine and supporting infrastructure. The mine operation is expected to produce an average of 8.6 million tonnes wet (wmt) of iron ore concentrate annually over a 26-year mine life. High-purity iron ore concentrate will be transported by rail to the deep-water industrial docks in Pointe-Noire in Sept-Îles, Québec, for international shipping. The Project site is located wholly within Labrador; no activities associated with the Project site will take place in Québec. Since Champion acquired the Project from Alderon, the Project design has evolved through an iterative process and Champion has implemented key Project optimizations on the previous Alderon design. The proposed Project location and site layout are shown in Figure ES-1.

All Project components will be constructed, operated, and closed in accordance with governing federal, provincial, and municipal regulations, as well as industry regulations and standards. Champion will obtain the approvals, permits, and authorizations that are required from federal, provincial, and municipal regulators prior to Project initiation. In addition, Champion will comply with the terms and conditions of EA and permit approval, standards contained in federal and provincial legislation, and regulations and guidelines throughout Project construction, operation, and closure. The current Project is also incorporating commitments and requirements from the previous EA processes into the ongoing assessment.



KEY MAP



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Legend

PROJECT DATA

- Proposed Project Infrastructure
- Proposed Sediment Pond
- Potential Access Road

BASEMAP INFORMATION

- Road
- Railway
- Watercourse
- Contour
- Duley Lake Park
- Bog/Wetland
- Waterbody
- Labrador/Quebec Boundary
- Public Water Supply

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NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. IMAGERY CREDITS:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

PROJECT LOCATION AND SITE LAYOUT

CONSULTANT

wsp

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APPROVED	--

PROJECT NO.	CONTROL	REV.	FIGURE
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1.2 Proponent

The Kami Iron Mine Partnership (Ontario) is composed of Champion and the partnership members of Nippon Steel Corporation and Sojitz Corporation, for joint ownership and development of the Kami Mining Project. While the Partnership will hold ownership of the Project, Champion will retain operatorship of the Project and will oversee the potential development and future operations of the Project. Champion is leading the EIS submission and all permit applications for the Project.

Champion, through its wholly owned subsidiary Quebec Iron Ore Inc., owns and operates the Bloom Lake Mining Complex located on the south end of the Labrador Trough, approximately 13 km north of Fermont, Québec. Bloom Lake is an open-pit operation with two concentration plants that primarily source energy from renewable hydroelectric power, having a combined nameplate capacity of 15M wmt per year that produce low contaminant high-grade 66.2% Fe iron ore concentrate with a proven ability to produce a 67.5% Fe direct reduction quality iron ore concentrate. Benefiting from one of the highest purity resources globally, Champion is investing to upgrade half of Bloom Lake's mine capacity to a direct reduction quality pellet feed iron ore with up to 69% Fe. Bloom Lake's high-grade and low contaminant iron ore products have attracted a premium to the Platts IODEX 62% Fe iron ore benchmark. Champion ships iron ore concentrate from Bloom Lake by rail, to a ship loading port in Sept-Îles, Québec, and has delivered its iron ore concentrate globally, including in China, Japan, the Middle East, Europe, South Korea, India and Canada.

In addition to Bloom Lake, Champion owns the Kamistiatusset mining properties, a project with an estimated annual production of 8.6 wmt per year of direct reduction quality iron ore grading above 67.5% Fe, located near available infrastructure and only a few kilometres south-east of Bloom Lake. In December 2024, Champion entered into a binding agreement with Nippon Steel Corporation and Sojitz Corporation to form a partnership to evaluate the potential development of the Kami Mining Project, including the completion of a definitive feasibility study. Champion also owns a portfolio of exploration and development projects in the Labrador Trough, including the Cluster II portfolio of properties, located within 60 km south of Bloom Lake.

One of the joint ownership partners, Nippon, is Japan’s largest steelmaker and one of the world’s leading steel manufacturers. Nippon has a global crude steel production capacity of approximately 66 million tonnes and employs approximately 110,000 people in the world. Nippon’s manufacturing base is in Japan and the company has presence in 15 countries or more worldwide, including the United States, India, Thailand, Indonesia, Vietnam, Brazil, Mexico, Sweden, China, and others. As the “Best Steelmaker with World-Leading Capabilities,” Nippon pursues world-leading technologies and manufacturing capabilities and contributes to society by providing excellent products and services.

The other joint partner is Sojitz, which was formed out the union of Nichimen Corporation and Nissho Iwai Corporation, both companies that boast incredibly long histories. For more than 160 years, their business has helped support the development of countless countries. Today, the Sojitz group consists of approximately 400 subsidiaries and affiliates located in Japan and throughout the world, developing wide-ranging general trading company operations globally.

1.3 Structure of the Environmental Impact Statement

Table ES-1 presents a structure of the EIS. The EIS includes the main EIS report, composed of 24 chapters. Management plans, baseline reports, and technical support documents (TSDs) are included in this EIS submission and are intended to address the EIS Guidelines and present the results of the EA and supporting information. The EIS also includes supporting appendices to the EIS chapters, which are not presented in Table ES-1, but are listed in the EIS Table of Contents.

Table ES-1: Structure and Content of the Environmental Impact Statement

Document Type	Chapter, Annex, or Technical Support Document
Environmental Impact Statement Main Report	Cover Page and Table of Contents
	Executive Summary
	Abbreviations, Units and Glossary: — Units of measure — Abbreviations list — Glossary list
	Chapter 1: Introduction
	Chapter 2: Project Description
	Chapter 3: Project Alternatives
	Chapter 4: Effects Assessment Methodology
	Chapter 5: Air Quality and Climate
	Chapter 6: Noise, Vibration, and Light
	Chapter 7: Groundwater
	Chapter 8: Surface Water
	Chapter 9: Fish and Fish Habitat
	Chapter 10: Vegetation, Wetlands, and Protected Areas
	Chapter 11: Wildlife
	Chapter 12: Heritage and Historical Resources
	Chapter 13: Indigenous Land and Resource Use
	Chapter 14: Other Land and Resource Use
	Chapter 15: Economy and Employment
	Chapter 16: Services and Infrastructure
	Chapter 17: Community Health and Well-being
	Chapter 18: Accidents and Malfunctions
	Chapter 19: Effects of the Environment on the Project
	Chapter 20: Environmental Management, Monitoring, and Follow-up
	Chapter 21: Summary of Significance of Residual Effects
	Chapter 22: Engagement
	Chapter 23: Commitments Made in the Environmental Impact Statement
	Chapter 24: Assessment Summary and Conclusions
Baseline Reports	**Annex 1: Atmospheric Environment Baseline Reports** — 1A: Ambient Air Quality Baseline Report — 1B: Noise Baseline Report — 1C: Light Baseline Report
	Annex 2: Aquatic Environment Baseline Reports — 2A: Surface Water Baseline Report — 2B: Fish and Fish Habitat Baseline Report
	Annex 3: Terrestrial Environment Baseline Reports — 3A: Terrain and Soils Baseline Report — 3B: Vegetation and Wetlands Baseline Report and Baseline Addendum — 3C: Wildlife Baseline Report — 3D: Avifauna Baseline Report
	Annex 4: Human Environment Baseline Reports — 4A: Historic and Heritage Resources Baseline Report

Document Type	Chapter, Annex, or Technical Support Document
	— 4B: Cultural Heritage Screening Report — 4C: Land Use and Socioeconomic Baseline Report
Management Plans	**Annex 5: Management Plans** — 5A: Gender Equity, Diversity and Inclusion Plan — 5B: Dam Safety Plan — 5C: Emergency Response Plan — 5D: Environmental Protection Plan Annotated Table of Contents — 5E: Environmental Effects Monitoring Plan — 5F: Erosion and Sediment Control Plan — 5G: Kami Engagement Plan — 5H: Waste Management Plan
Technical Support Documents	TSD I: Tailings Management Facility Pre-feasibility Level Design Report
	TSD II: Water Management Infrastructure Design Report
	TSD III: Mine Waste Multiple Accounts Analysis Report
	TSD IV: Best Available Controls and Technology Study Report
	TSD V: Hydrogeology Modelling Report
	TSD VI: Site Wide Water Balance and Water Quality Modelling Report
	TSD VII: Selenium Site-Specific Water Quality Objectives Modelling Summary
	TSD VIII: Cobalt Site-Specific Water Quality Objectives Modelling Summary
	TSD IX: Fish and Fish Habitat Offsetting Plan
	TSD X: Visual Aesthetics Impact Assessment
	TSD XI: Human Health Risk Assessment Modelling Report
	TSD XII: Geochemical Characterization Report Phase II Static Testing

2. Project Description

2.1 Project Location

The proposed Project area is situated on the western border of Labrador, approximately 7 km southwest of the Town of Wabush and 5 km northeast of the Town of Fermont, Québec. The area surrounding the Project is heavily industrialized with several existing mining operations, including Tacora's Scully Mine (approximately 6 km north), Rio Tinto's Iron Ore Company of Canada Mine (approximately 20 km north), Champion's Bloom Lake Mine (approximately 14 km west), and ArcelorMittal's Mont-Wright mine (approximately 20 km west) located within the general vicinity of the Project. No Indigenous communities are present within close proximity to the Project (i.e., within 200 km), and there are no treaties or settled land claims overlapping the Project area. However, the Project is located within the asserted traditional territory of five Indigenous groups: Innu Takuaikan Uashat mak Mani-Utenam, La Nation Innu Matimekush-Lac John, Innu Nation, Naskapi Nation of Kawawachikamach, and NunatuKavut Community Council. Identifying members of each group may live within the local municipalities of Wabush, Fermont, and Labrador City, which surround the Project.

2.2 Project Schedule

Champion has developed a schedule for the Project, detailing the duration and timing of various stages, phases, and periods, including permitting and approvals, construction, operation, decommissioning, reclamation, and post-closure. The Project phases span approximately 40 years, with Construction lasting four years, Operations and Maintenance lasting 26 years, and Closure lasting 10 years and leading into a Post-closure period. The Post-closure period, involving dam monitoring, is estimated to extend for another 40 years, based on pre-feasibility study details. The proposed schedule is presented in Table ES-2.

Table ES-2: Project Schedule

Schedule Stage, Phase or Period	Description	Duration
Permitting and approvals stage	The permitting and approvals stage includes release from the provincial EA process from the Government of NL and receipt of permits from applicable provincial and federal regulatory agencies.	3 years
Construction phase (referred to as Construction)	Includes site preparation; mine, process plant and site infrastructure development; and commissioning the structures, systems, and components.	4 years
Operations and Maintenance phase (referred to as Operations)	Includes the mining and milling of iron ore, production and shipment of iron ore concentrate, tailings management, management of mine rock, waste management, water management, release of treated effluent, site maintenance and transportation of staff and materials to and from the site. Operations include one year of pre-development mining (i.e., ramp-up).	26 years
Decommissioning and Rehabilitation phase (referred to as Closure)	Includes accelerated flooding of the Rose Pit, re-establishment of passive surface water drainage following the pit-flooding period, recontouring and revegetating disturbed areas. Physical infrastructure that is not required during post-closure monitoring and for other activities required to achieve the Project's decommissioning criteria and to return the Project site to a safe and stable condition will be removed.	10 years
Post-closure period	The transition from Closure to Post-closure involves ongoing dam safety monitoring, water treatment, and environmental monitoring to verify that water quality is achievable for passive discharge and decommissioning criteria have been met. The length of the Post-closure period could be further refined through the completion of additional analysis as part of the Feasibility Study.	40 years

EA = Environmental Assessment; NL = Newfoundland and Labrador.

2.3 Project Design Considerations and Changes to Project Design

Champion's redesign of the Project aims to reduce uncertainty and improve design confidence, environmental performance, and social acceptability. Through detailed analysis of previous studies and engagement with Indigenous groups, regulatory agencies, and local stakeholders, Champion identified key areas for improvement, including:

- hydrogeological and hydrological environment
- water management approach, due to level of uncertainty in hydrogeological and hydrological environment and
- waste management, including tailings and mine rock management

Recommendations and conditions identified through the review, approval and release of the previous EIS, and Champion's operational experience from the Bloom Lake Project were incorporated to refine the Project design. Champion identified changes to the Project design in the Project Registration document submitted to the Department in April 2024 (WSP 2024). Since the submission of the Project Registration, Champion has continued to refine and optimize the Project to reduce adverse effects and operational risks, maximize benefits, fulfill EIS commitments and conditions of release from the previous owner, and incorporate feedback received through engagement with local stakeholders and Indigenous groups. The following changes have been made to the proposed Project since submission of the Project Registration:

- The Rose Pit has been redesigned to improve pit wall stability, enhance ore production, and reduce the amount of mine rock generated.
- The design of the overburden stockpile has been updated to increase storage capacity.
- The design of the mine rock stockpile has been updated to reduce the slope of the stockpile to meet closure objectives for rehabilitation.
- The alignment of the western access road has been changed to reflect feedback from local cabin owners and stakeholders.
- The alignments of the eastern access road and railway have been updated to avoid the Wahnahnish Lake Public Water Supply Area.
- The water management approach has been updated to reduce the number of discharges and improve overall environmental performance during all Project phases.
- Sources of potable water and approach to sewage management have been updated.

It is recognized that as the Project advances through subsequent stages of design and Champion continues to undertake Indigenous, stakeholder, and regulatory engagement, review and optimization of Project components and activities would occur. When applicable, proposed refinements to the Project will be discussed with the Department.

2.4 Project Components

The Project includes construction, operation, and closure of the following components (Figure ES-1):

- an open pit (referred to as the Rose Pit)
- ore processing infrastructure
- waste management infrastructure
- water management infrastructure proposed to collect, convey, store, treat, and discharge contact and non-contact water
- supporting infrastructure (e.g., workforce accommodations, mine service area, potable water supply)
- transportation corridors (road and rail)

Rose Pit

The Rose Pit, located south of Pike Lake, is a proposed open pit mine that will be mined as a single pit and will be approximately 2.6 km long, 1.5 km wide, and will reach an average depth of 550 m. The pit design includes a single exit to the east and two internal pits, each targeting the Rose Central and Rose North deposits, that merge at 275 m depth. The Project will combine conventional open pit mining for ore and mine rock extraction with a modern in-pit crushing and conveying (IPCC) system for mine rock management. The IPCC system is a semi-mobile structure that can be moved as the mining progresses through operations.

Standard surface mining techniques (drill, blast, load, haul) will be used to create the open pit. As ore is mined from the pit, it will be loaded and hauled out of the pit with 320 tonne (t) haul trucks and transported to the primary ore crusher station. Mine rock will be crushed by the IPCC system in the Rose Pit and afterwards loaded into an overland conveyor for transportation to the mine rock stockpile. It is anticipated that the implementation of the IPCC will occur within the first few years of Operations, once the pit and ramps are sufficiently developed.

Ore Crushing, Handling, and Storage

The ore crushing station includes the primary ore crushing station, conveyors, and a transfer tower that will be located adjacent to the crushing station. The primary crusher building is in close proximity to the Rose Pit, to minimize hauling distance. Ore will be stockpiled in one of three stockpiles north of Rose Pit: the ore stockpile, the low-grade ore stockpile, or the emergency ore stockpile.

From the stockpiles, ore will be dumped into a 1,175 kW gyratory crusher, crushed by a hydraulic rock breaker, and sent to a surge pile via a takeaway conveyor. Crushed ore will then be collected on an apron feeder, fed into a reclaim conveyor, and transported by the main overland conveyor from the transfer tower to the crushed ore stockpile. The crushed ore stockpile is located near the process plant; it will be covered by a geodesic dome. Apron feeders underneath the stockpile would reclaim the crushed ore and transport it via an underground mill belt conveyor to the process plant.

Mine Waste Management

Mine waste management infrastructure includes the Project components required to manage and store material waste generated from mining activities, specifically mine rock and overburden. Overburden, which is the soil or rock layer overlying mineral deposits, will be stripped during the Construction and Operations phases and transported via haul trucks to the overburden stockpile. It is estimated that a total of 117 Mt of overburden will be produced over the mine's life and that the overburden stockpile will have a maximum elevation of 700 m and a surface area of 174 ha. The overburden stockpile is located northwest of Rose Pit and overlaps with Duley Lake Provincial Park.

Mine rock extracted from the Rose Pit during operations will be composed of mine rock and ore that does not meet quality criteria for processing (i.e., ore with less than 29.2% Fe). Mine rock will be stored in the mine rock stockpile, which will be located east of Mills Lake. An estimated 914 Mt of mine rock will be produced over the mine's life.

Process Plant

The process plant, also referred to in the EIS as the concentrator, will be located to the east of Duley Lake and will consist of the autogenous grinding mill, a gravity circuit using spirals and Reflux® Classifier, magnetic separation circuits, flotation circuits, dewatering processes, water treatment plant, and ancillary process areas. The concentrator focuses on crushing materials in the autogenous grinding mill to break larger and coarser materials into smaller pieces, making these easier to process in the subsequent stages. The circuits used in the concentrator include the following: grinding and screening circuit, gravity separation circuit, magnetic separation circuit, gravity concentrate regrind and flotation, magnetic concentrate regrinding and flotation, concentrate dewatering and storage, and tailings thickening.

Slurry generated from the grinding and screening circuit are subjected to gravity concentration using rougher spirals and cleaner Reflux® Classifier that produce tailings and a gravity concentrate. The gravity concentrate is further reground in a tower mill closed-circuit and processed through an iron ore reverse flotation circuit that produces a low-silica-grade final gravity concentrate. Tailings from the gravity separation circuit are subjected to a magnetic separation process, which produces magnetic concentrate. The magnetic concentrate is regrounded and magnetite is recovered gradually through the finisher low intensity magnetic separators.

The finisher low intensity magnetic separators concentrate is processed through flotation columns that remove liberated silica through iron ore reverse flotation and produce a low-silica-grade final magnetic concentrate. Gravity concentrate is processed through cyclones to generate a coarser underflow with high density, which is dewatered using pan filters with steam injection. The cyclone overflow is combined with the magnetic concentrate and is dewatered by thickening and press-filtration. Filtered concentrates are combined on a belt conveyor, which directs the product to the concentrate load-out, with a capacity of 30,000 Mt.

To allow operations to continue in case of full load-out silo, railway, or other problems preventing shipment, iron ore concentrate can be diverted to an emergency ore concentrate stockpile with a capacity of 375,000 Mt.

Additional surface infrastructure associated with the process plant includes the steam boiler room, electrical rooms, generator sets, air compressors, a freshwater and a process water tank, a security gate house and a warehouse.

Tailings Management Facility

The tailings management facility (TMF) will be located east of Duley Lake and south of the process plant, and will store tailings generated during ore processing. It is estimated that the Project will produce approximately 16.6 Mt of tailings per year for a total of 420.4 Mt of tailings at the end of operations, which corresponds to a storage volume requirement of 280.3 million cubic metres (Mm^3).

The TMF embankments will be raised in nine stages, beginning with a starter dam and using the centreline method for each subsequent stage for effective risk management and materials usage optimization. The design includes using coarse tailings and non-acid generating mine rock for construction, with road topping material for vehicle access. Studies indicate the tailings have low metal leaching potential, while some mine rock may require careful selection to meet specified properties.

A supernatant pond (i.e., water that sits above solids that have settled), will be operated within the TMF for operational and stormwater management. Water will be recycled from the TMF pond to the process plant for use in the ore processing or will be discharged to the environment after treatment.

Run-off and seepage collection ditches will be constructed along the toe of the perimeter dam in the TMF. The water collected in the ditches will be directed to sumps strategically established at topographic low areas around the perimeter of the TMF alignment. The water collected in the sumps will be pumped back to the TMF with a pump and pipeline system. The ditches will be established downstream of the downstream toe of the ninth stage so that relocation of the ditches is not required as part of the dam raising.

Water Management Infrastructure

The proposed water management infrastructure for the Project includes the following key components:

- a collection pond (referred to as the Rose Pit collection pond) south of the Rose Pit within End Lake and Elfie Lake. Two dams will be built to support the Rose Rit collection pond
- a diversion dam upstream of Rose Pit (referred to as the Mid Lake Dam) to facilitate the diversion of clean non-contact water around the Rose Pit and to Pike Lake
- a dike to maintain separation between Pike Lake and the Rose Pit, referred to as the Pike Lake dike
- contact water collection ponds surrounding the overburden stockpile and mine rock stockpile with pumping stations to facilitate the collection and diversion of contact water from the stockpiles to the Rose Pit collection pond
- clean non-contact water perimeter diversion ditches around the Rose Pit collection pond
- perimeter contact water collection ditches around the overburden stockpile, mine rock stockpile, TMF and other Project facilities
- TMF and associated infrastructure, including dam embankment seepage collection and TMF pond pump back systems, and process plant water reclaim systems within the TMF pond
- process plant and associated infrastructure including the freshwater intake from Duley Lake and the water treatment plant
- effluent discharge pipeline and diffuser within Duley Lake to manage discharge from the Rose Pit collection pond and the water treatment plant
- pumping system to convey water from Duley Lake to Pike Lake to maintain water levels in Pike Lake during operations
- 10 collection basins scattered along the main road to manage contact water related to roads and material storage on site

Aggregate and Borrow Source Material

A total of 7.4 Mm^3 of mine rock and 1.3 Mm^3 of structural fill and aggregate will be required for construction. These materials will be used for concrete production and to construct site laydowns, access roads, on-site roads, the railway and the TMF starter dam. The Rose Pit quarry will be advanced throughout the Construction phase and cover the extent of the surface footprint of the Rose Pit. A temporary aggregate plant will be built in the location of the primary ore crushing station to facilitate crushing of materials for construction, prior to the construction of the primary ore crushing station and permanent aggregate plant located just north of the mine rock stockpile. A borrow pit will also be established within the TMF to support construction material needs. Champion will continue to explore additional borrow source opportunities and refine quantity estimates through successive stages of engineering.

Roads

Access roads are those located outside of the mine site and facilitate access to the site from Labrador West communities. The Project proposes two new access roads: the west access road, which will initially facilitate site access at the initial stage of construction, and later serve as a secondary access point, and the east access road, which will provide the main access during all Project phases. The west access road (5.1 km long, 10.5 m wide) will connect Highway 500 to the Rose Pit and overburden stockpile, aiding in construction activities. The east access road (8.9 km long, 10.5 m wide) will connect Highway 500 to the Project site. Both roads will have gated guardhouses for controlled access. The alignment of the east access road has been updated since the submission of the May 2024 Project Registration to avoid the Wahnahnish Lake Public Water Supply Area. The alignments for both access roads will be further refined as the Project progresses through subsequent engineering stages.

Site roads extend from the northeastern end of the mine site to the southwest portions, providing access to the various areas of the site, and will accommodate both light and heavy vehicle traffic.

Railway Line

The Kami railway line consists of a new 17.6 km single track that will connect the mine south of Wabush to the Québec North Shore and Labrador (QNS&L) Railway line north of Wabush Airport, and will include a 7.2 km loading loop at the mine site for 240-car trains. For the last 10.6 km of alignment towards the loading loop where no existing access is possible, the railway alignment will align with the eastern access road until the road diverges to the worker accommodations and process plant while the railway continues on through the railway loop. The alignment of the railway line has been updated since the submission of the May 2024 Project Registration to avoid the Wahnahnish Lake Public Water Supply Area.

The railway design will be refined as the Project progresses through subsequent engineering stages. Infrastructure upgrades for the existing rail network will be managed separately.

Water Crossings, Bridges, and Culverts

The Project will require various water crossing features, including eight proposed crossings for access roads and nine for the railway line, as well as several within the mine site. Two structurally independent bridges will be constructed over the Waldorf River: one for the main overland conveyor and another for light and heavy traffic. Additionally, 17 culverts will be installed to span creeks and streams intersected by the access roads and railway line, ensuring flow and fish passage. These culverts will also manage drainage and divert non-contact water run-off.

Power Supply and Distribution

Champion estimates the Project's electrical power needs at approximately 172 megawatts (MW). Presently, there does not exist sufficient power capacity in the Labrador West region does not exist to power the Project. Newfoundland Hydro (NL Hydro) plans to initiate the Labrador West Transmission Study to explore the feasibility of expanding the transmission system from Churchill Falls, which includes the construction of a 735 kV transmission line from Churchill Falls to Flora Lake. Should the transmission study proceed, a substation at the process plant and an 18.5 km long, 315 kV transmission line from Flora Lake to the Kami substation will also be constructed. The Kami substation will step down the voltage and distribute power across the site, with backup generator sets for critical components in case of a power failure. The transmission lines will follow existing corridors and disturbed areas, where feasible, and will be subject to separate assessment and approval processes.

Worker Accommodations

The Project will develop two on-site worker accommodations: a permanent camp and a temporary construction camp. The permanent camp will be located 1 km northeast of the process plant and will house 600 workers and will have a kitchen, cafeteria, and potable and wastewater treatment systems. Most of the employees will reside within the camp; however, some alternate accommodation may be provisioned within the Towns of Wabush and/or Labrador City.

The temporary construction camp, located next to the permanent camp along the site access road, will provide 400 additional rooms to accommodate the peak workforce of 1,000 staff during the transition between the Construction and Operations phases. It will also have a kitchen, cafeteria, and its own potable water and water treatment systems. Both worker accommodations will be built during the Construction phase to house the peak construction and pre-development period workforce.

Potable Water Supply

Potable water will be supplied to the workers accommodations, mine service area, the concentrator, and the crusher, with each site drawing water from its own wells and following provincial regulatory requirements. The anticipated treatment chain includes feeding pumps, multimedia filters, ultraviolet reactors, chlorination systems, drinking water storage tanks (except for the crusher), and distribution pumps.

Wastewater Treatment

Wastewater produced on the four sites will be treated at a wastewater treatment plant that will be constructed at the worker accommodation. Wastewater from the mine service area, concentrator and the crusher will be kept in their self assigned storage tanks to be vacuumed and transported to the worker accommodation wastewater treatment plant. The plant will handle wastewater for up to 1,000 workers, with vacuum trucks making approximately 24 trips per week. The treatment chain includes a vacuum truck, septic tank reservoir, a pumping station, a screening system, a trash tank, a buffer tank, bioreactors, ultrafiltration membranes, ultraviolet reactors, a sludge holding/thickening tank, and sludge dewatering systems. The treated effluent will meet strict environmental standards and be discharged into a nearby wetland or stream around the worker accommodation or to an exfiltration gallery.

Explosives Production and Storage

An emulsion and explosion production plant will be built and operated at a safe distance (approximately 500 m) from the mining operations. The plant will produce an estimated 30 kilotonne equivalent (kTe) of explosives per year at peak production. Raw materials for the manufacture of explosives will be transported by truck from the Town of Wabush to the plant. Explosives will be stored adjacent to the plant, at a safe distance north of the mine. Explosive accessories will be stored in a magazine located near the plant.

Supporting Infrastructure

The Project will include several supporting infrastructure components, including the mine service area which consists of a temporary megadome mine garage, workshop, warehouse, employee facilities, and diesel fuel tanks, with permanent facilities to be built after five years. Two freshwater pumping stations, one located southeast of Duley Lake and one located at Mills Lake, will provide water for various site needs. The crushing plant will produce materials for road construction and blasthole stemming. Telecommunication services will be supported by a 15 km fibre optic cable and satellite service. Fire protection systems will be installed across the site, each with a water tank and pumps, ensuring coverage for key areas like the primary ore crusher station, mine service area, process plant and auxiliary buildings, and concentrate load-out area.

2.5 Project Activities

Project activities, by Project phase, are summarized in Table ES-3.

Table ES-3: Project Phases and Activities

Project Phase	Activities
Construction	The focus of the Construction phase would be to construct and commission all planned Project components required to support the commencement of production of iron ore concentrate. The construction and commissioning of the proposed Project would be completed over a four-year period utilizing up to an estimated peak of approximately 600 on-site workers (e.g., employees, consultants, contractors). Construction activities include: – site preparation – access road and on-site road development – development of the Rose Pit quarry – in-water works – TMF construction – construction power supply and distribution – railway construction – building and infrastructure construction – transportation and storage of fuel, dangerous goods and hazardous materials
Operations and Maintenance	The focus of the Operations and Maintenance phase is to complete all mining, processing and shipment of iron ore concentrate. The Operations and Maintenance phase would be completed over a 26-year period, with one year of predevelopment mining to ramp up operations. The operation activities include: – mining – ore processing – tailings management – mine waste management – water management – transportation and storage of fuel, dangerous goods and hazardous materials
Closure	Champion is developing a Rehabilitation and Closure Plan in accordance with provincial regulations to support future land use of accessible environmental, recreational, and future development opportunities where possible across the rehabilitated site. Key activities in achieving this future land use include: – accelerated flooding of the Rose Pit with limited recontouring to support stability and vegetation establishment, while maintaining surface flow rates in surrounding water bodies – temporary access control measures in place during the flooding period (anticipated to be approximately 10 years) – re-establishment of passive surface water drainage following the pit-flooding period

Project Phase	Activities
	– progressive regrading, soil cover and revegetation of the overburden and mine rock stockpile – soil cover and revegetation of the TMF – dismantling and removal of buildings, equipment and electrical infrastructure not required for monitoring or support of future land use purposes – grading, scarification and revegetation of pads and roads not required for monitoring or support of future land use purposes – dismantling and removal of railway infrastructure – on-site treatment of contaminated soil or off-site disposal in accordance with regulations Additional interim care and maintenance and monitoring activities are expected during the Closure phase and Post-closure period. Short-term monitoring and maintenance are anticipated to include water quality, air quality, wildlife effects, and vegetation monitoring, as well as cover system and vegetation maintenance. Long-term monitoring is associated with monitoring tailings dam structures.
Post-closure period	The objective of the Post-closure period is to reclassify the TMF dams to mine waste structures or landforms by meeting applicable Canadian Dams Association guideline criteria. If feasible, the TMF will be substantially drained with the aim to meet the criteria for the dam to be reclassified as a landform. Monitoring of the tailings dam will be performed for 50 years with dam safety reviews performed every 5 years, or until the applicable Canadian Dams Association guideline criteria can be successfully met. Environmental post-closure monitoring programs will continue for an estimated 6 to 10 years but this period could be shortened based on the satisfaction of regulators that physical and chemical characteristics of the site are acceptable and stable.

TMF = tailings management facility.

2.6 Effluent, Emissions and Waste

Effluent, emissions and waste will result from Project activities during all Project phases. During initial design, Champion has employed design principles and plans for best available control technologies, as applicable, to manage and mitigate effluent, emissions and waste generated from the Project. During Project execution, Champion will adhere to mitigation measures based on industry standard best practices to reduce effluent and emissions concentrations and waste.

Effluent sources include treated water from the water treatment plant, treated sewage, and surface run-off. Water that contacts Project components will be collected and treated to comply with provincial and federal regulations. Sanitary sewage from the worker accommodations, mine service area, concentrator, and crusher building will be treated at the sewage treatment plant at the worker accommodations. During construction, a contractor will manage sewage waste for offsite disposal until the plant is built.

Construction and operation activities will emit air contaminants, greenhouse gases, noise, vibration, and light. Air contaminants include carbon monoxide, nitrogen oxides, sulphur dioxide, dust, and particulate matter from activities such as site preparation, mining, and transportation. Greenhouse gas emissions, primarily from fuel combustion, are estimated at an average of 51 kiloton (kt) carbon dioxide equivalent annually. Select exhaust sources will be equipped with emission control technologies to reduce emissions of contaminants and greenhouse gases. Noise and vibration will result from drilling, blasting, and vehicle operation, while light emissions will come from lighting on buildings, mine vehicles, and equipment. The Project will operate 24 hours a day, 7 days a week from construction to closure. Environmental design features will help reduce emissions.

Throughout all phases of the Project, solid and hazardous waste management will adhere to NL's provincial waste management strategy. No solid or hazardous waste will be disposed of on site. Champion's waste management plan will include waste receptacles for collection and segregation, on-site sorting/storage areas, transportation of waste to appropriate facilities, and safe storage for hazardous waste. The plan will also integrate waste management into procurement contracts and include waste management principles in employee and contractor orientations. Champion will maintain contracts with certified waste contractors for regular removal of waste materials.

3. Project Alternatives

3.1 Purpose, Rationale and Need for Project

The purpose of the Project is to provide high-grade, low-impurity iron ore concentrate intended to directly support the steel industry's global transition toward low-carbon emissions production technologies, as well as to support global climate objectives. The Project's high-grade iron concentrate (minimum grade of 67.5% iron) will enable cleaner, more efficient direct reduction iron (DRI) ore concentrate to be available on international markets for steelmaking. The DRI process emits approximately 50% less carbon emissions than traditional blast furnace processes.

The Project's concentrate will achieve premium market rates due to its high-grade and low-impurity characteristics, which are scarce in global markets. Additionally, the Project will supply critical minerals needed for renewable energy infrastructure, supporting global efforts to decarbonize and meet climate objectives. High-grade, low-impurity iron ore is also acknowledged as a critical mineral by the provincial and federal governments for its role in producing low-emissions (i.e., "green") steel.

3.2 Alternatives to the Project

"Alternatives to" the Project are defined as functionally different options of achieving the purpose of and need for the Project that are technically and economically achievable (IAAC, 2020). To generate the steel needed to meet the purpose of the Project, there are two functional alternatives: produce lower-grade iron ore concentrate for use in basic oxygen furnaces (BOFs) (or, following downstream beneficiation, for use in DRI) to generate steel (Alternative 1); and produce high-grade, low-purity iron ore concentrate to feed DRI or electric arc furnace to generate green steel (Alternative 2).

Alternatives to the Project were assessed against four different criteria: environmental, technical, economic and social. The environmental criterion considers the potential interactions with the biophysical environment. The technical criterion considers the feasibility, reliability, and resilience of Project alternatives. The economic criterion considers the Project costs and financial viability. Lastly, the social criterion considers the potential interactions with the socioeconomic environment.

Higher-grade iron ore concentrate (Alternative 2) was selected as the preferred alternative due to the following:

- use of DRI is more efficient due to lower impurities and higher iron content
- use of DRI and electric arc furnace are more energy-efficient and result in reduced greenhouse gas (GHG) emissions compared to BOF
- this alternative generates a reliable source of raw material for steelmaking
- high-grade ores are less abundant and are in increasing demand, which allows the product to be sold at a premium price and would position Canada as a leader in the global market
- high-grade iron ore supports global climate objectives through the production of low-emission steel and aligns with both provincial and federal critical mineral priorities

3.3 Alternative Methods of Carrying Out the Project

"Alternative means" of carrying out the Project (referred to here as "alternative methods") are defined as different technically and economically feasible means of carrying out aspects of the project, including through the use of best available technologies (IAAC, 2020). The following Project aspects were identified and evaluated in the analysis of alternative methods:

- Project phasing
- transportation and site access
- mining
- process plant size and type
- overburden, mine rock, and tailings management
- ore and mine rock hauling methods
- sources of energy
- effluent discharges and water sources

The alternative methods under each Project aspect were screened against the evaluation criteria (i.e., environmental, technical, economic and social criteria). A summary of the results of the alternatives assessment is provided in Table ES-4. Details of the rationale for the selection of the preferred alternative methods are provided in **Chapter 3, Project Alternatives**, of the EIS.

Table ES-4: **Summary of the Assessment of Alternative Methods**

Project Aspect	Alternative Method Category	Alternative Methods Assessed	Preferred Alternative Method
Infrastructure and phasing	Construction phasing	Four-Year Construction Timeline	Four-Year Construction Timeline
	Operations phasing	26-Year Mine Life	26-Year Mine Life
	Number of access roads	West access road only	Two access roads (east and west access roads)
		East access road only	
		Two access roads (east and west access roads)	
	East access road alignment	East Access Road Alignment 1	East Access Road Alignment 1
		East Access Road Alignment 2	
	West access road alignment	West Access Road Alignment 1	West Access Road Alignment 2
		West Access Road Alignment 2	
	Ore shipment methodology and route	Truck iron ore concentrate directly to Sept-Îles	Rail connection to Tacora Rail Line and merge with QNS&L Railway
		Rail Connection to QNS&L Railway	
		Rail connection to Tacora Rail Line and merge with QNS&L Railway	
Mining	Mining method	Open Pit Mining	Open Pit Mining
		Underground Mining	
	Open pit design	Pre-feasibility Study Pit Design	EIS Pit Design
		EIS Pit Design	
Process plant size and types	Process plant size and type	Alderon Feasibility Study Design (2018)	Champion Pre-feasibility Study Design (2024)
		Champion Pre-feasibility Study Design (2024)	

Project Aspect	Alternative Method Category	Alternative Methods Assessed	Preferred Alternative Method
Overburden, tailings, and mine waste stockpiles	Location of overburden stockpile	South of Rose Pit (Option B)	West of Pike Lake (Option D)
		West of Pike Lake (Option D)	
		Northeast of Rose Pit (Option G)	
	Location of mine rock stockpile	South of Rose Pit (Site 2)	Southeast of Rose Pit (Site 5)
		Southeast of Rose Pit (Site 5)	
		Northeast of Rose Pit (Site 6)	
	Location of TMF	Alternative C8	Alternative C10'
		Alternative C10'	
		Alternative C12	
		Alternative C13	
Ore and mine rock hauling methods	Ore and mine rock hauling methods	Conventional Hauling with Autonomous Trucks	IPCC System for Mine Rock, with Hauling of Ore Using Crewed Trucks
		IPCC System for Mine Rock, with Hauling of Ore Using Crewed Trucks	
		IPCC System for both Ore and Mine Rock, with Crewed Trucks Supporting Mining Operations	
Sources of energy	Sources of energy	Diesel Generators	Transmission Line from NL Hydro Grid
		Transmission Line from NL Hydro Grid	
Water supply and wastewater	Number and location of treated effluent discharges	Discharge Locations at both Pike Lake and Duley Lake	Discharge Location at Duley Lake only, with Water Transfer to Pike Lake
		Discharge Location at Duley Lake only, with Water Transfer to Pike Lake	
	Management of seepage at water collection dikes	Collection of Seepage and Treatment at Rose Pit Collection Pond	Redirect Seepage to Originating Water Source
		Redirect Seepage to Originating Water Source	
	Effluent treatment method	Natural Attenuation	Water Treatment via Coagulation
		Water Treatment via Coagulation	

Project Aspect	Alternative Method Category	Alternative Methods Assessed	Preferred Alternative Method
	Sewage treatment method and discharge location	Wastewater collected and treated on site	Wastewater collected and treated on site, and discharged at a wetland on site after treatment
		Wastewater collected in septic tanks and transported off site via trucks to a treatment facility	
		Discharge treated sewage effluent into Duley Lake	
		Discharge treated sewage effluent into a wetland on site	
		Surface Water	
	Potable water supply	Groundwater	Groundwater
		Duley Lake	
	Process water supply	Mills Lake	Duley Lake
		Duley Lake	

QNS&L = Québec North Shore and Labrador; EIS = Environmental Impact Statement; IPCC = in-pit crushing and conveying ; NL = Newfoundland and Labrador.

4. Effects Assessment Methodology

4.1 Approach to the Effects Assessment

The methods used to prepare this EIS have been developed in consideration of the requirements under the provincial *Environmental Protection Act*, with specific consideration of the requirements set out in the provincial Environmental Impact Statement Guidelines (EIS Guidelines) for the Project issued by the Minister of Environment and Climate Change (Government of NL 2024).

The EA systematically evaluates how Project components and activities may interact with the environment, considering biophysical, cultural, and socioeconomic impacts. Where potential adverse effects are identified, feasible environmental design features and/or mitigation practices are identified to avoid or minimize these potential adverse effects. Where potential positive interactions or outcomes are identified (e.g., economic benefits of the Project), enhancement measures are proposed to maximize potential benefits from the Project.

Residual Project effects are also carried forward to the assessment of the cumulative effects, where residual effects that are likely to interact cumulatively with other physical activities (previous, existing, and reasonably foreseeable) are identified and assessed.

The effects assessment approach is shown in Figure ES-2 and includes the following steps, where applicable:

- **Integrating Consultation from Indigenous Groups and Local Stakeholders:** Consult with Indigenous groups and local stakeholders throughout the planning process to collect input and incorporate key issues into the EIS.
- **Assessment Scoping:** Scope the assessment by focusing on key issues, identifying and defining the valued environmental components (VECs), associated measurable parameters and assessment boundaries for the aspects of the environment that could be potentially affected by the Project. Additional details on VECs and assessment boundary scoping are provided in Section 4.1.1. To initiate the process of identifying key issues, Champion reviewed and categorized issues that were raised through the consultation that was completed by Alderon with Indigenous groups and stakeholders between 2011 and 2014 during the completion of the previous EA. Since 2021, Champion has been consulting on these key issues with Indigenous groups and local stakeholders. Key issues, as applicable to each VEC, are identified in each of the technical chapters.
- **Characterization of Existing Conditions / Existing Environment:** Describe the existing conditions, including the combined effects of previous and existing developments, to provide context for evaluating potential residual Project effects and cumulative effects.
- **Effects Pathway Screening:** Complete the effect pathway screening, by identifying Project-environment interactions (Step 1); proposing environmental design features, mitigation or enhancement measures (Step 2); and identifying residual effect pathways (Step 3).
- **Residual Project Effect Analysis:** Carry forward the residual effect pathways to the residual Project effect analysis. Complete the residual Project effects analysis by predicting and characterizing residual effects (adverse and positive) for each VEC using the following criteria: nature, magnitude, geographic extent, timing, duration, frequency, reversibility, probability of occurrence and ecological and socioeconomic context. Once residual adverse Project effects are characterized, provide a determination of significance for the VEC. Once residual positive effects are characterized, the assessment of residual positive effects is concluded as significance is not determined, and cumulative effects are not assessed for positive residual effects.
- **Residual Cumulative Effect Analysis:** Carry forward the residual adverse Project effects on the cumulative effects analysis. Determine the potential for cumulative adverse effects by determining if residual Project effects overlap in time and space with the effects of other reasonably foreseeable developments (RFDs; Figure ES-3). Once potential cumulative adverse effects are identified, predict and characterize residual adverse cumulative effects using the same criteria as the residual Project effects analysis. Where applicable, propose additional mitigation and enhancement measures. Once residual cumulative effects are characterized, provide a determination of significance for the VEC.
- **Prediction Confidence and Uncertainty:** Identify key uncertainties and describe how these uncertainties were addressed to achieve a precautionary assessment. Discuss the implications of the approaches used to address uncertainties and the level of confidence in the residual Project and cumulative effects analyses.
- **Monitoring, Follow-up, and Adaptive Management:** Propose monitoring and follow-up activities to verify the predicted residual effects; evaluate the effectiveness of planned mitigation designs, policies, and practices; incorporate adaptive management and address key sources of uncertainty.

A Key Findings section within each chapter identified if any new adverse effects are anticipated from the Project, compared with the Alderon EIS (Alderon 2012). The results of the effects assessment for each environmental discipline are provided in the technical assessment chapters of the EIS.

As outlined in Sections 6.1 and 6.2 of the provincial EIS Guidelines, each VEC assessment also considers the predicted future condition of the environment with respect to each VEC should the Project not proceed, and the capacity of renewable resources that are likely to be affected by the Project to meet the needs of the present and those of the future. The details related to these components of the assessment are provided in the technical assessment chapters of the EIS.

Section 6.3 of the provincial EIS Guidelines also requires that the EIS identify and describe the potential accidents and malfunctions related to all components of the Project and provide an assessment of their effects on the environment. Assessment of accidents and malfunctions was completed in Chapter 18 of the EIS and is summarized in Section 5.14 of the Executive Summary.

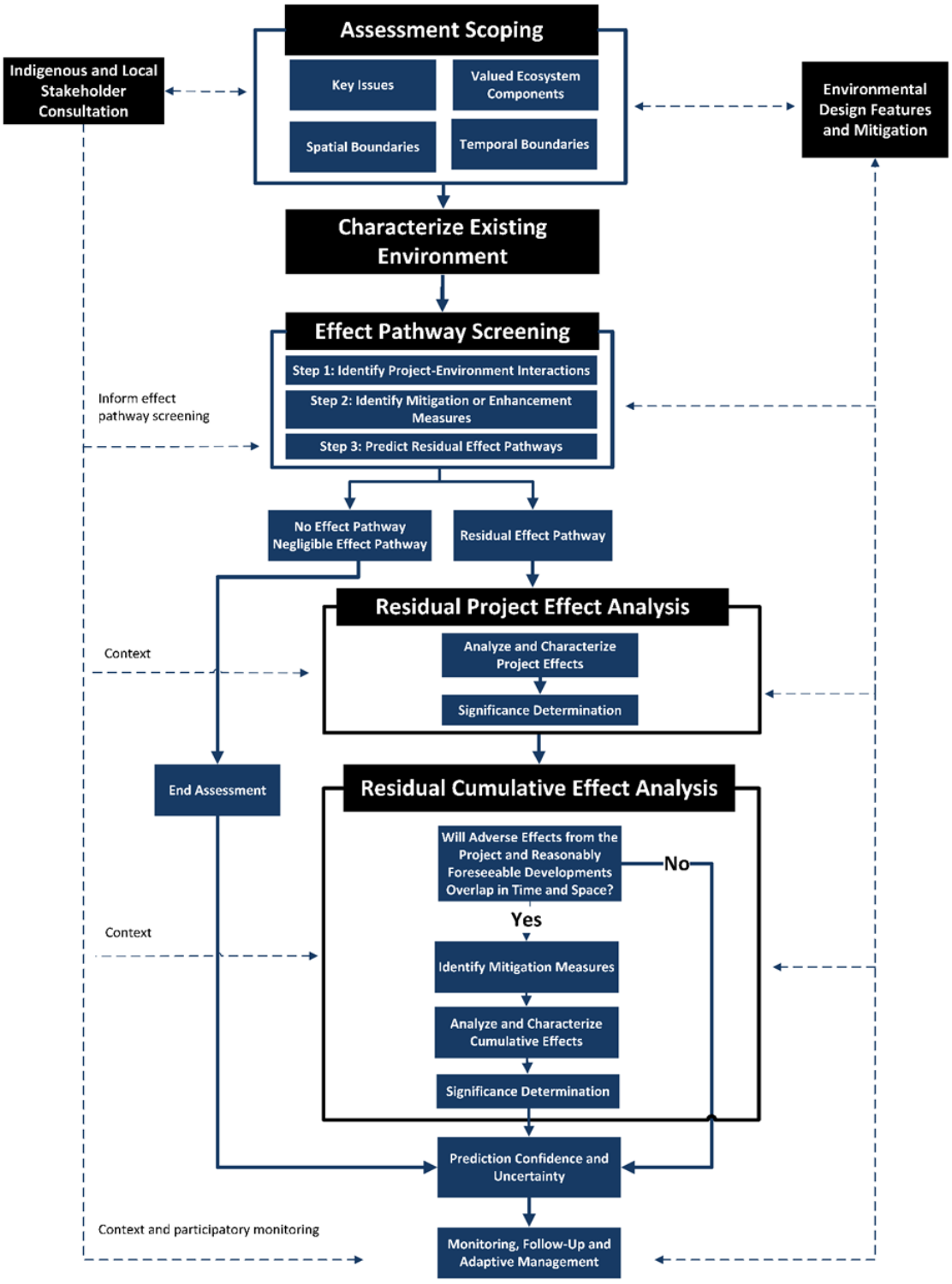
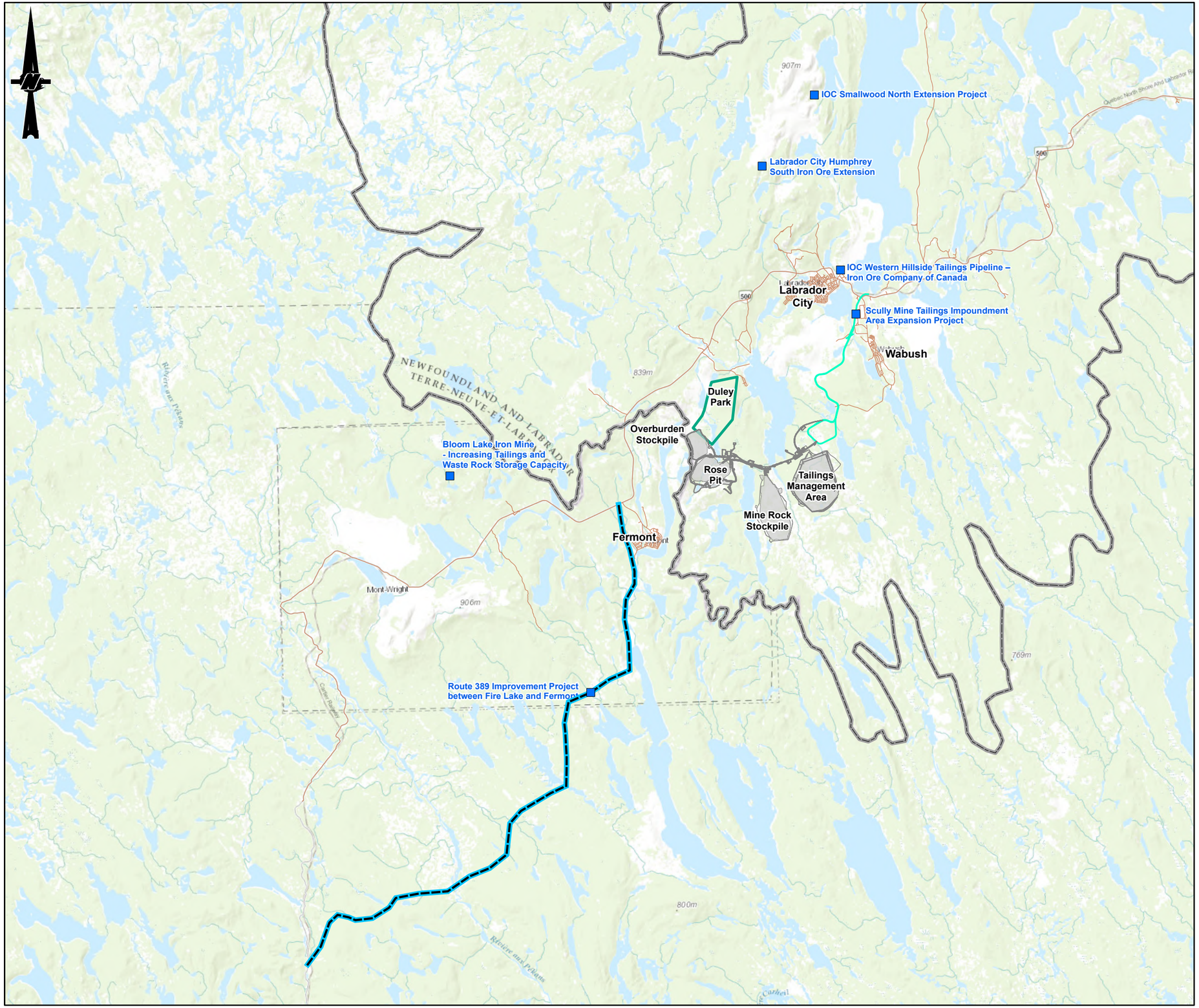


Figure ES-2: Environmental Effects Assessment Approach



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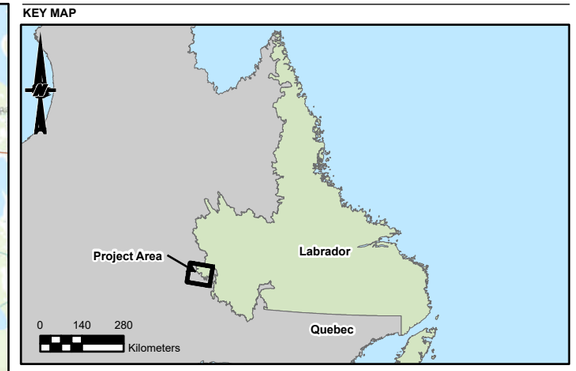

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LEGEND

PROJECT INFRASTRUCTURE

- Proposed Project Infrastructure
- Proposed Project Infrastructure (Linear)
- Proposed Access Road and Railway Corridor
- Reasonably Foreseeable Developments

BASEMAP INFORMATION

- Duley Lake Park
- Labrador/Quebec Boundary
- Existing Road
- Proposed Road 389 Between Fermont and Fire Lake

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1:250,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS: WORLD TOPOGRAPHIC MAP: ESRI, © OPENSTREETMAP CONTRIBUTORS, HERE, GARMIN, USGS, NGA, EPA, USDA, AAFC, NRCAN
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

REASONABLY FORESEEABLE DEVELOPMENTS

CONSULTANT

Kami

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DESIGNED	----
PREPARED	GM
REVIEWED	CC
APPROVED	CC

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4.1.1 Valued Environmental Components and Assessment Boundaries

The following VECs were selected for the assessment presented in the EIS, in consideration of Project-specific guidelines and requirements, consultation with stakeholders, potential interactions with the environment, and recent experience with similar projects:

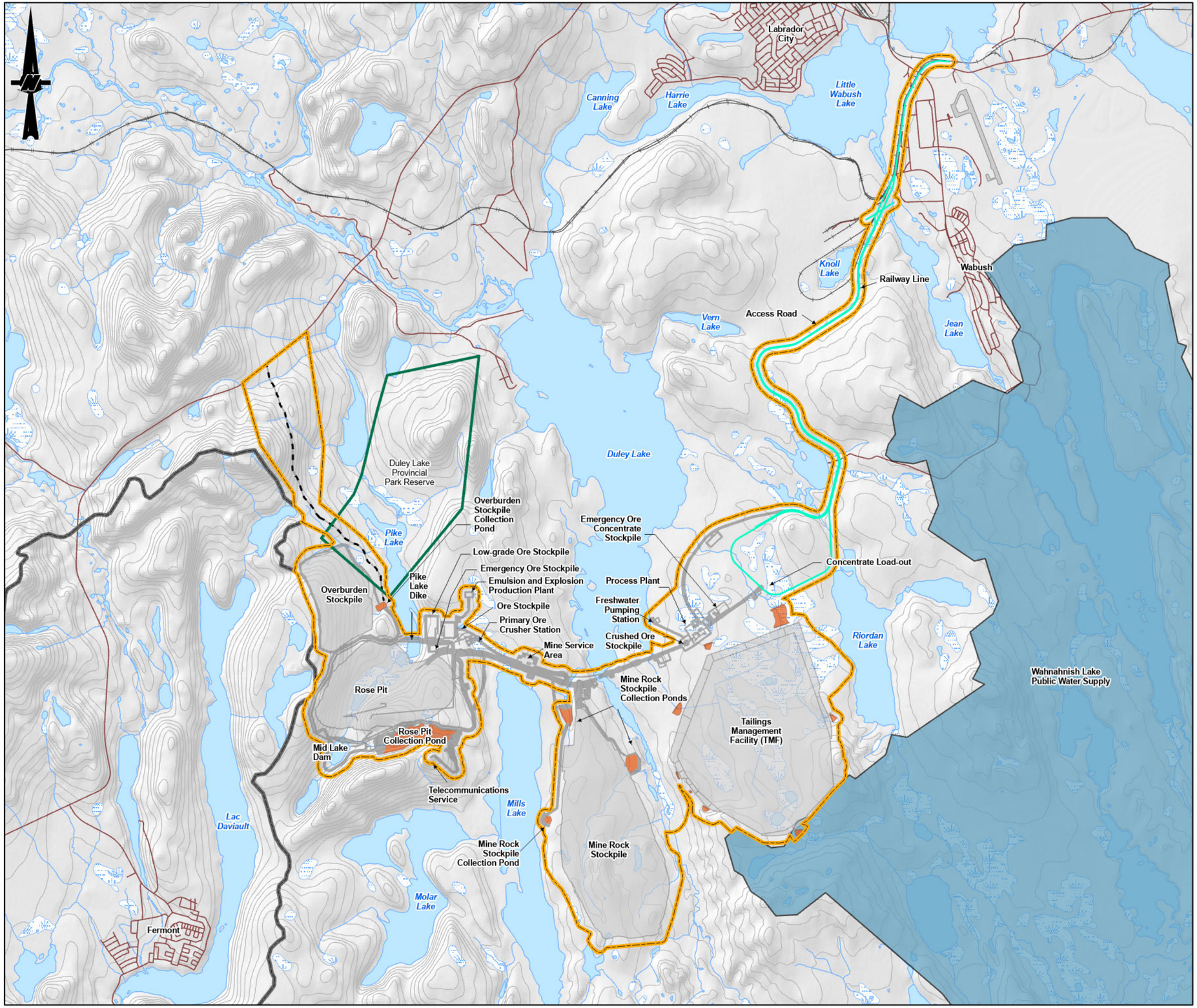
- air quality
- climate
- noise
- vibration
- light
- groundwater quantity and quality
- surface water quantity and quality
- fish habitat and productivity
- fish health
- vegetation
- wetlands
- protected areas
- SAR birds and migratory birds protected by the *Migratory Birds Convention Act*
- bats
- woodland caribou
- other wildlife
- heritage and historical resources
- Indigenous Land and Resource Use
- other land and resource use
- economy and employment
- services and infrastructure
- community health and well-being

This EIS provides separate technical chapters that describe each VEC, the rationale for the VEC selection, a summary of the VEC-related comments that have been raised through consultation, and linkages to other VECs. Measurable parameters that can be quantified to inform the assessment of VECs, and their rationale for selection and description, are also identified in each technical chapter. Measurable parameters also provide the primary factors for discussing the uncertainty of effects on VECs and are key variables for follow-up and monitoring programs.

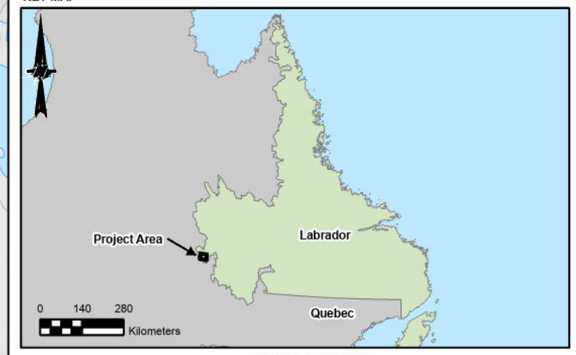
Assessment boundaries define the spatial and temporal extents of the assessment for each VEC. Spatial boundaries define the geographical extent for studying baseline conditions and assessing environmental effects. Three spatial scales are typically used in the EIS:

- **Site Study Area (SSA):** The SSA includes the proposed infrastructure for the Project (i.e., the Project footprint) and includes buffers applied to the outer edges of the Project footprint. It was constrained to certain features, including major lakes, the Quebec-Labrador provincial border and sensitive features, like the Wahnahnish Lake Protected Public Water Supply Area. The SSA is consistent across all the VEC assessments, represents the smallest scale of assessment (measuring 4,323 ha), and allows accurate and precise assessment of potential direct effects of the Project **(**Figure ES-4**).**
- **Local Study Area (LSA):** Encompasses most expected Project effects, with detailed data collection to describe existing conditions.
- **Regional Study Area (RSA):** Provides broader context for the assessment of Project effects on VECs and at the appropriate scale to assess cumulative effects from the Project combined with existing conditions and other RFDs.

The description of the spatial boundaries, as they apply to each VEC, and their rationale are detailed in the technical chapters of the EIS.



KEY MAP



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Legend

PROJECT DATA

- Proposed Project Infrastructure
- Proposed Sediment Pond
- Potential Access Road
- Proposed Access Road and Railway Corridor
- Site Study Area (SSA)

BASEMAP INFORMATION

- Road
- Railway
- Watercourse
- Contour
- Bog/Wetland
- Waterbody
- Duley Lake Park
- Labrador/Quebec Boundary
- Public Water Supply

0 1,000 2,000 4,000

1:70,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

SITE STUDY AREA

CONSULTANT

Kami

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PREPARED	MS
REVIEWED	AF
APPROVED	KB

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The temporal scope of the EIS covers a 40-year period from the Construction phase to the end of Decommissioning and Rehabilitation phase. It evaluates both short-term and long-term changes from the Project and the associated Project-specific and cumulative effects. The minimum temporal boundary for the EA is defined by the following Project phases:

- **Construction phase (referred to as Construction)**—Includes site preparation, mine, process plant and site infrastructure development, and commissioning the structures, systems, and components. The duration of Construction is expected to be four years.
- **Operations and Maintenance phase (referred to as Operations)**—Includes the mining and milling of iron ore, production and shipment of iron ore concentrate, tailings management, management of mine rock, waste management, water management, release of treated effluent, site maintenance and transportation of staff and materials to and from the site. Operations include one year of pre-development mining (i.e., ramp-up). The Operations and Maintenance phase concludes when processing is complete and is expected to be 26 years.
- **Decommissioning and Rehabilitation phase (referred to as Closure)**—Includes accelerated flooding of the Rose Pit, re-establishment of passive surface water drainage following the pit-flooding period, and recontouring and revegetating disturbed areas. Physical infrastructure that is not required during post-closure monitoring and for other activities required to achieve the Project's decommissioning criteria and to return the Project site to a safe and stable condition will be removed. Closure is expected to be 10 years.

Effects may extend beyond these phases into a Post-closure period (assumed to be 40 years), involving ongoing monitoring and treatment. Temporal boundaries are specific to each VEC and consider residual effects across all Project phases. For some VECs, effects are assessed from Construction through Post-closure, while for others, assessments focus on phases with the most pronounced effects.

5. Environmental Effects Assessment

5.1 Air Quality and Climate

Chapter 5, Air Quality and Climate, of the EIS provides a comprehensive assessment of potential effects of the Project on air quality and climate.

5.1.1 Assessment Scoping

Air quality was selected as a VEC because it was identified as a key issue in the provincial EIS Guidelines (Government of NL 2024). Emissions to the atmosphere, such as dust emissions from mining activities and emissions from fuel combustion, may occur due to the Project. These atmospheric emissions can affect the environment, land use, and human health if they are present in certain concentrations; therefore, air quality has intrinsic importance to the health and well-being of humans, wildlife, and vegetation. The air quality effects assessment focused on the contaminants of concern (COCs), which include total particulate matter (TPM), particulate matter less than 10 micrometres (PM_{10}), particulate matter less than 2.5 micrometres ($PM_{2.5}$), nitrogen dioxide, carbon monoxide, sulphur dioxide, and metals, including arsenic, cadmium, copper, lead, mercury, nickel, vanadium, and zinc. These COCs have ambient air quality standards in Table 1 of Schedule A of the Government of NL *Air Pollution Control Regulations, 2022* (O.C. 2022-027) (Government of NL 2022).

Climate, assessed as effects of changes in GHG emissions on climate change, was selected as a VEC because the Project is anticipated to increase the provincial GHG totals. Assessing GHG is the most effective method for estimating a project's effect on climate change. The climate VEC assessment considered emissions of carbon dioxide, methane, and nitrous oxide that would be emitted through all Project phases. The provincial EIS Guidelines require quantification of Direct (Scope 1) GHG emissions from activities within the Project boundary (on-site stationary combustion, on-site electricity generation, and mobile transportation), Indirect (Scope 2) GHG emissions from purchased electricity, and some Indirect (Scope 3) GHG emissions from activities from outside the Project boundary.

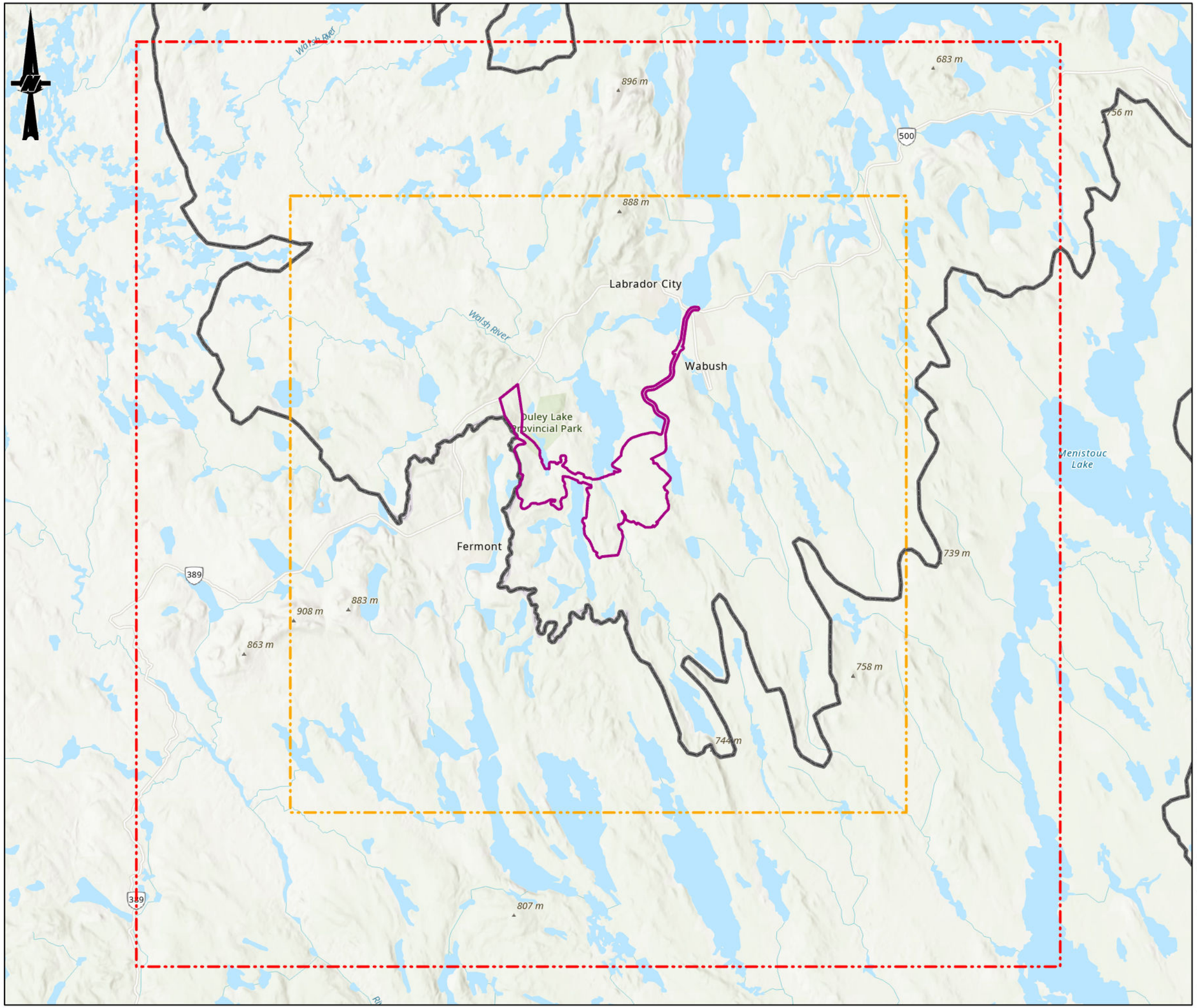
The spatial boundaries for the air quality effects assessment include the SSA, as well as an LSA and RSA, which are provided in Table ES-5 and shown in Figure ES-5. Spatial boundaries were not defined for the climate VEC, as GHG emissions are both regional and global by nature. The temporal scope of the assessment focuses on the 40-year period from initial Construction to the end of Closure.

Table ES-5: **Study Areas for Air Quality**

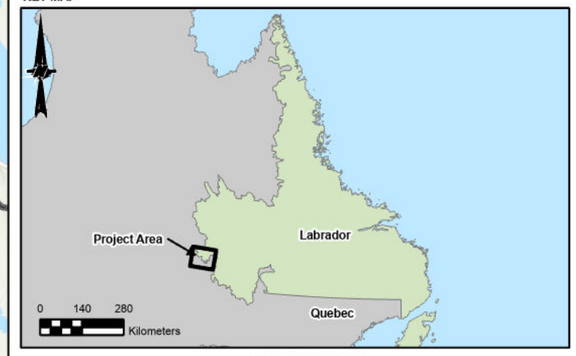
Study Area	Area (ha)[(a)]	Description/Rationale
LSA	160,000	The LSA was defined by a square that extends 20 km from the centre of the mine site infrastructure and includes the towns of Wabush and Labrador City, Labrador, and Fermont, Québec. The LSA represents an area where air quality effects can be predicted with a reasonable degree of accuracy and confidence. The LSA is consistent with the LSA defined in the previous EIS (Alderon 2012).
RSA	360,000	The RSA was defined by a square that extends 30 km from the centre of the mine site infrastructure and provides a reasonable scale to consider nearby industrial facilities in the cumulative effects assessment.

(a) 1 ha = 10,000 m^2.

EIS = Environmental Impact Statement; LSA = local study area; RSA = regional study area.



KEY MAP



SCALE 1:20,000,000

Legend

- Site Study Area
- Local Study Area
- Regional Study Area
- Labrador/Quebec Boundary

0 4,000 8,000 16,000

1:250,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. IMAGERY CREDITS: WORLD TOPOGRAPHIC MAP: SOURCES: ESRI, TOMTOM, GARMIN, FAO, NOAA, USGS, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
WORLD HILLSHADE: ESRI, NASA, NGA, USGS
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

AIR QUALITY ASSESSMENT BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	GM
REVIEWED	JT
APPROVED	KB

PROJECT NO.	CONTROL	REV.	FIGURE
CA0038713.5261	0001	0	ES-5

5.1.2 Existing Environment

Measured concentrations at air quality monitoring stations were evaluated to establish appropriate baseline concentrations of COC. Carbon monoxide is not currently monitored in Western Labrador so baseline concentrations were estimated using measurements from the National Air Pollution Surveillance station in St. John's, NL.

The existing conditions for climate were characterized using the most recent annual dataset from the federal National Inventory Report 1990–2022 (ECCC 2024), which includes GHG emissions information at industry and jurisdictional levels.

Existing sources of COC within the air quality VEC spatial boundaries, including the local communities, cabins, existing mining operations, and natural factors (i.e., fire, precipitation, wind), contribute to the predicted background levels of COCs; therefore, the air quality in the area is recognized to be previously disturbed by human development or natural factors.

5.1.3 Effects Assessment

5.1.3.1 Pathway Screening

Project activities that would have the potential to affect air quality and climate VECs were identified during the Construction, Operations, and Closure phases of the Project. Air emissions related to the Project will consist of fugitive releases of dust from blasting, material handling, and traffic on unpaved roads and particulates and combustion gases from fuel combustion in the mining equipment fleet, fuel combustion in locomotives, fuel combustion in emergency generators, and explosive detonation. GHG emissions related to the Project will consist of power generation, use of equipment, and other GHG emitting sources.

As part of the effect pathway screening, proposed environmental design features and mitigation measures to control releases of air emissions and GHGs were considered and proposed to determine whether effects on the environment could be avoided or reduced to negligible levels, thereby removing the pathway. In addition, an ambient air quality monitoring program will be implemented during each Project phase.

After mitigation measures were considered, the pathways screening analysis determined that the Project could adversely affect air quality and climate VECs from the following residual effect pathways:

- Releases of COCs from Project activities may affect air quality during all Project phases.
- GHG emissions from Project components and activities during all Project phases contribute to climate change and provincial and national GHG emissions totals.

These residual effect pathways were carried forward to the residual Project and cumulative effect analyses.

5.1.3.2 Residual Project and Cumulative Effect Analyses – Air Quality

The release of COC emissions from the Project has the potential to cause an adverse effect on air quality during all Project phases by increasing ambient concentrations above baseline conditions. Emission rates from Project activities in the Construction and Operations phases were calculated using Project-specific activity and equipment specifications, where available, and several assumptions based on Project knowledge to date. The California puff plume dispersion model was used to predict maximum ground-level concentrations for the COCs.

The release of COCs is predicted to have a low to high magnitude. TPM and PM_{10} were predicted to have a high magnitude because the maximum ground-level concentrations at select receptor locations in the vicinity of the Project are predicted to be above the corresponding NL Ambient Air Quality Standards (NLAAQS) during the Operations phase. The predicted ground-level concentrations of $PM_{2.5}$, nitrous oxide, carbon monoxide, sulphur dioxide, and metals are predicted to be below corresponding NLAAQS during all phases of the Project, and are predicted to have a low to moderate magnitude. The effect on air quality is predicted to have a local geographic extent because air emissions will be limited to the SSA and LSA. Effects are predicted to be medium term, as it is expected that concentrations will be highest during operations and lower in the Construction and Closure phases. The effect on air quality is anticipated to occur year-round and the effect is anticipated to be reversible, as it is expected that COC concentrations would return to background levels following Closure activities. To consider socioeconomic context, effects were predicted at receptors that could be considered sensitive for air quality (i.e., cabins and communities).

Predicted concentrations of TPM and PM_{10} infrequently exceed the NLAAQS at cabin locations, Duley Lake South, and Fermont. No exceedances are predicted at the other community locations. Local communities, cabins, existing mining operations and natural factors also contribute to the background concentrations.

There are six RFDs that were identified as having spatial and temporal overlap and the potential to emit contaminants in common with the Project. Of these six, only one RFD was determined to result in potential cumulative effects from the Project, the Scully Mine Tailings Impoundment Area Expansion Project. The 24-hour maximum predicted ground-level concentrations of TPM and PM_{10} from the Kami Mining Project are predicted to be above the corresponding NLAAQS during the Operations phase and therefore, regardless of the fugitive dust generated from the Scully Mine Tailings Impoundment Area Expansion Project, the magnitude of residual cumulative effects is high. The Project releases of coarse particulates (TPM and PM_{10}), including background concentrations, disperse with distance from Rose Pit and are generally below their respective NLAAQS within 4 km of the SSA. Fine particulates ($PM_{2.5}$) are generally below their respective NLAAQS within 1 km of the SSA. The cabins and community (Duley Lake South, Fermont) located closest to the Kami Project where infrequent exceedances of the NLAAQS are predicted are of sufficient distance (greater than 5 to 10 km) from the Scully Mine Tailings Impoundment Area Expansion Project, and incremental increases to the predicted concentrations of COCs from the Project are not anticipated. In addition to human activities, climate change and related effects (e.g., extreme weather, increased frequency and intensity of extreme weather events, wildfires) may contribute cumulatively to air quality. Climate change was considered qualitatively in the assessment of cumulative effects to air quality. Because of the uncertainty in direction and magnitude, it was conservatively assumed that climate change would have an adverse cumulative effect on air quality.

5.1.3.3 Residual Project and Cumulative Effects Analysis – Climate

The residual effects analysis for climate considered the estimated GHG emissions expected to be generated from the Project. The Project has the potential to emit GHGs throughout all Project phases as a result of the various processes and activities that produce GHG emissions.Based on the annual estimates of Project GHG emissions, it is anticipated that the Project would be required to report its emissions under the provincial *Management of Greenhouse Gas Act*, and federal Greenhouse Gas Reporting Program. The Project would also be subject to GHG emission reduction targets under *Management of Greenhouse Gas Act*, and required to develop a Best Available Control Technology study (provided in the EIS as TSD IV).

Most residual effects criteria do not vary due to the long-term to permanent (i.e., duration) and global nature (i.e., beyond regional extent) of GHGs. The residual Project effects of GHG releases are invariably adverse, continuous, and irreversible (i.e., lasting well beyond when the contribution of GHGs ceases); therefore, when considering GHGs, the only applicable residual effects criterion is magnitude. The magnitude of Project GHG emissions is considered low because the average annual Project GHG emissions would be less than 0.7% of the provincial total emissions and less than 0.01% of the federal total emissions.

A residual cumulative effects assessment was not completed for the climate VEC, as residual cumulative effects are implicitly included in the residual Project effects analysis by nature of the effects of GHG emission. The residual Project effects analysis already considers the cumulative effects of historical, existing, and future projects through comparison to provincial and federal emissions levels and the continued ability for Canada to reach climate change commitments in the form of emission reduction targets, and provides the necessary information for the provincial government to consider the Project relative to future development.

5.1.3.4 Determination of Significance

Effects to air quality are anticipated to be greatest during the Project Operations phase. Maximum ground-level concentrations of TPM and PM_{10} at sensitive receptors within the vicinity of the Project are predicted to be infrequently above the NLAAQS. These exceedances occur at the maximum predicted cabin receptor (<1% of the year for TPM and up to 4% of the year for PM_{10}), Duley Lake South (<1% of the year for TPM and 1% of the year for PM_{10}), and Fermont (<1% of the year for PM_{10}). No exceedances of the NLAAQS are predicted for $PM_{2.5}$, nitrogen dioxide, sulphur dioxide, carbon monoxide, and metals at the cabin or communities. As effects are anticipated to be infrequently above the NLAAQS, no significant effect is predicted. Potential cumulative effects with identified RFDs, specifically the Scully Lake Tailings Impoundment Project, are unlikely to contribute to the predictions of COCs from the Project; therefore, a significant cumulative effect on air quality is not predicted.

Average annual Project GHG emissions would be less than 1% of the 2022 provincial annual total GHG emissions and approximately 0.01% of the 2022 federal annual total GHG emissions. Considering the provincial outlook to 2030, where GHG emissions targets are 30% below 2005 levels, the average Project GHG emissions would continue to contribute less than 1% of provincial GHG emissions at the 2030 target. Given the low contribution of the Project to the provincial totals, NL would be expected to be capable of maintaining the ability to reach its climate change commitments through advancing technology to support fuel switching and energy efficiency. The residual effects from the Project on the climate VEC are determined to be not significant.

Furthermore, steel is a foundational material for modern infrastructure and industrial development and is estimated to contribute between 8% and 10% of global carbon emissions annually (International Energy Agency 2023). The steel industry is increasingly shifting away from the traditional coal-burning, BOF steelmaking and towards decarbonized production pathways such as DRI and electric arc furnace steelmaking.

The high-grade, low-impurity iron ore concentrate produced by the Project is specifically designed to support an industrial transition to DRI. Whereas traditional BOF methods use coal as a reducing agent in steelmaking, the DRI process uses natural gas or, more efficiently, hydrogen as a reducing agent to considerably reduce carbon emissions (Champion 2023). Thus, the Project aligns with global efforts to reduce reliance on BOF, thereby reducing overall industrial emissions and supporting the long-term sustainability of the steel sector (Champion 2024). It is estimated that the DRI process proposed for the Project emits approximately 50% less carbon emissions than traditional blast furnace processes (i.e., BOF) (Champion 2023).

5.1.3.5 Prediction Confidence and Uncertainty

The uncertainty associated with the air quality predictions for COCs and GHG predictions was addressed through conservative assumptions in the emissions inventory and air dispersion model. The assessment approach represents a worst-case emission scenario that is expected to overestimate the ground-level concentrations and GHG emissions; therefore, there is a high degree of confidence in the predictions related to the assessment of air quality and climate VECs.

5.1.4 Monitoring, Follow-Up, and Adaptive Management

An ambient air quality monitoring program will be implemented during each Project phase to verify the model predictions, assess the effectiveness of mitigation measures, and inform if further mitigation measures are required. Opportunities for continuous improvement of dust management practices will be investigated, as required. The monitors will be in addition to the existing ambient air quality monitors operated by the Iron Ore Company of Canada and Tacora in Western Labrador. The locations of monitors and parameters to be considered at each will be established in consultation with the Government of NL, Department of Environment and Climate Change. Where relevant, adaptive management measures to address the uncertainties associated with the effects predictions and mitigation may be proposed.

The Project would result in increased GHG emissions compared to current sector, provincial, and federal totals during all Project phases. Based on the annual estimates of Project GHG emissions, it is anticipated that the Project would be required to report its emissions under the provincial *Management of Greenhouse Gas Act* and federal Greenhouse Gas Reporting Program. The Project would also be subject to GHG emission reduction targets under *Management of Greenhouse Gas Act*.

5.1.5 Comparison with Results of Alderon Environmental Impact Statement

A comparison of the residual environmental effects characterization for air quality during the Operations phase between the previous EIS (Alderon 2012) and the current study was completed. There is agreement between the characterizations of residual effects, with the exception of magnitude. The magnitude in the current study is determined by the maximum ground level concentrations just outside the SSA and surface leases, while the Alderon magnitude characterization was determined based on modelled concentrations at the community receptors.

For climate, the Project GHG estimates demonstrate that the current Project Scope 1 GHG emissions intensity is significantly lower than the proposed project in the Alderon 2012 EIS.

5.2 Noise, Light and Vibration

Chapter 6, Noise, Light and Vibration, of the EIS provides a comprehensive assessment of potential effects of the Project on noise, vibration and light.

5.2.1 Assessment Scoping

Noise, vibration, and light were selected as VECs because they were identified as key issues in the Provincial EIS Guidelines (Government of NL 2024). Noise emissions may occur during the Construction, Operations, and Closure phases of the Project and can affect nearby human receptors. Study areas considered for the noise assessment include the SSA, as well as an LSA and RSA, which are provided in Table ES-6 and are shown in Figure ES-6.

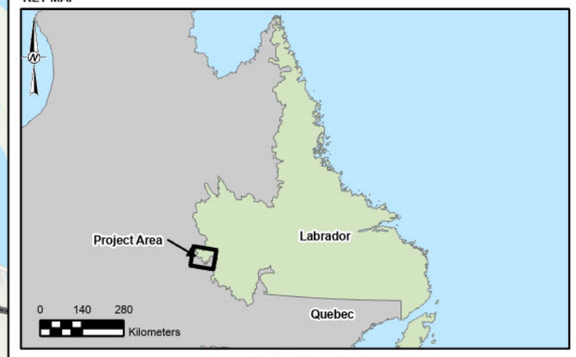
Table ES-6: Study Areas for Noise

Study Area	Area (ha)	Description/Rationale
LSA	41,637	The LSA was defined by a 5 km buffer from the SSA and includes the towns of Wabush and Labrador City, NL and Fermont, Québec. The LSA represents an area where most or all effects to noise from the Project are anticipated.
RSA	89,679	The RSA was defined by a 10 km buffer from the SSA and provides a reasonable scale to consider nearby industrial facilities in the cumulative effects assessment.

LSA = local study area; RSA = regional study area; SSA = site study area.

814 m
Walsh River
896 m
683 m
756 m
500
888 m
Labrador City
Walsh River
Wabush
Duley Lake
Provincial Park
Menistouc
Lake
739 m
Fermont
389
908 m
883 m
863 m
758 m
744 m
389
807 m

KEY MAP



SCALE 1:20,000,000

Legend

- Site Study Area
- Local Study Area
- Regional Study Area
- Labrador/Quebec Boundary

0 3,000 6,000 12,000

1:250,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS: WORLD TOPOGRAPHIC MAP: SOURCES: ESRI, TOMTOM, GARMIN, FAO, NOAA, USGS, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
WORLD HILLSHADE: ESRI, NASA, NGA, USGS
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

NOISE ASSESSMENT BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	RRD
REVIEWED	GE
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
CA0038713.5261	0001	0	ES-6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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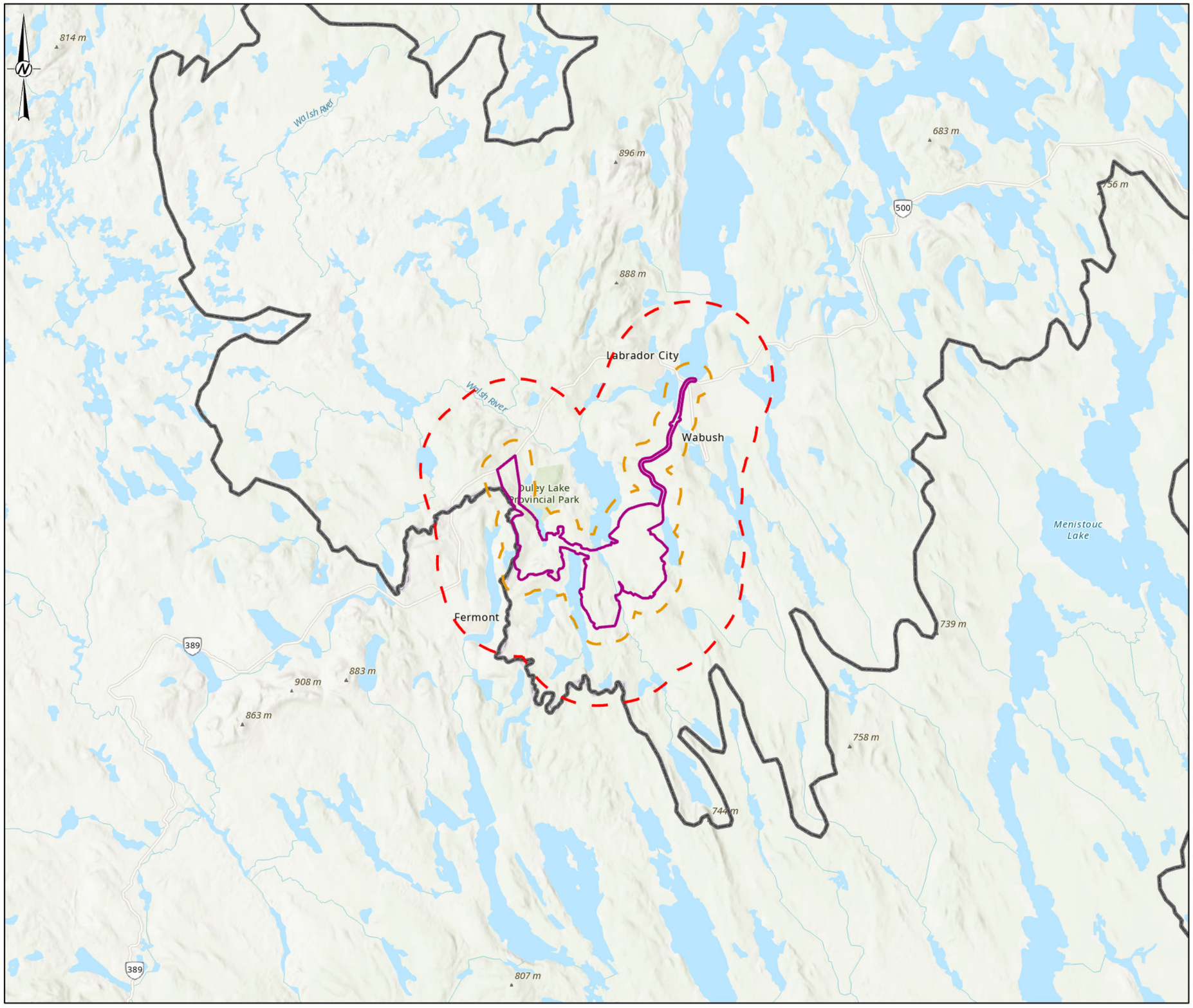
Vibration emissions to the surroundings, such as blast-induced vibration from mining and construction activities and vibrations induced by equipment during construction, may occur during the Construction and Operations phases of the Project. These vibration emissions can affect the environment and land use if they are exceeded certain levels; therefore, vibration levels have intrinsic importance to fisheries habitat and effect to nearby infrastructure. Study areas considered for the vibration assessment include the SSA, as well as an LSA and RSA, which are provided in Table ES-7 and are shown in Figure ES-7.

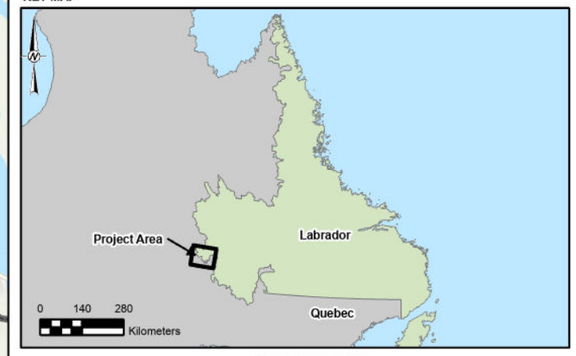
Table ES-7: **Study Areas for Vibration**

Study Area	Area (ha)	Description/Rationale
LSA	11,592	The LSA was defined as a 1 km buffer from the SSA and includes the towns of Wabush and Labrador City, NL. The LSA represents an area where most or all effects to vibration from the Project are anticipated.
RSA	41,637	The RSA was defined by a 5 km buffer that extends from the SSA (i.e., 4 km from the LSA) to consider nearby sensitive receptors in the cumulative effects assessment.

LSA = local study area; RSA = regional study area; SSA = site study area.



KEY MAP



SCALE 1:20,000,000

Legend

- Site Study Area
- Local Study Area
- Regional Study Area
- Labrador/Quebec Boundary

0 3,000 6,000 12,000

1:250,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS: WORLD TOPOGRAPHIC MAP: SOURCES: ESRI, TOMTOM, GARMIN, FAO, NOAA, USGS, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
WORLD HILLSHADE: ESRI, NASA, NGA, USGS
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

VIBRATION ASSESSMENT BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	RRD
REVIEWED	GE
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
CA0038713.5261	0001	0	ES-7

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: S:\Clients\Champion_Iron_Ore_Mines\Kami Iron Ore\99_PROJ\CA0038713.5261_EIS\40_PROD\0027_ES\CA0038713_5261_0027_ES_0000.aprx, PRINTED ON: AT 11:04:24 AM

Light emissions from mobile equipment and fixed lighting may occur during the Construction, Operations, and Closure phases of the Project. These light emissions can affect nearby human receptors. Study areas considered for the light assessment include the SSA, as well as an LSA and RSA, which are provided in Table ES-8 and are shown in Figure ES-8.

Table ES-8: **Study Areas for Light**

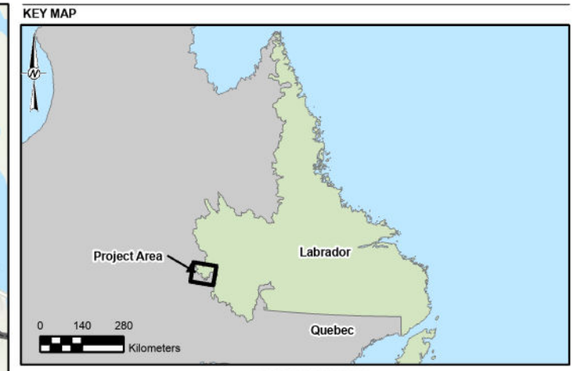
Study Area	Area (ha)	Description/Rationale
LSA	68,768	The LSA was defined by an 8 km buffer from the SSA and includes the towns of Wabush and Labrador City, NL and Fermont, Québec. The LSA represents an area where most or all effects to light from the Project are anticipated.
RSA	152,590	The RSA was defined by a 15 km buffer from the SSA and provides a reasonable scale to consider nearby industrial facilities in the cumulative effects assessment.

LSA = local study area; RSA = regional study area; SSA = site study area.

The temporal scope of the assessments focuses on the 40-year period from initial construction to the end of decommissioning and rehabilitation (i.e., closure).

814 m
Walsh River
896 m
683 m
756 m
500
888 m
Labrador City
Walsh River
Wabush
Duley Lake
Provincial Park
Menistouc
Lake
Fermont
739 m
389
908 m
883 m
863 m
758 m
744 m
807 m
389

KEY MAP



SCALE 1:20,000,000

Legend

- Site Study Area
- Local Study Area
- Regional Study Area
- Labrador/Quebec Boundary

0 3,000 6,000 12,000

1:250,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS: WORLD TOPOGRAPHIC MAP: SOURCES: ESRI, TOMTOM, GARMIN, FAO, NOAA, USGS, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
WORLD HILLSHADE: ESRI, NASA, NGA, USGS
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

LIGHT ASSESSMENT BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	RRD
REVIEWED	GE
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
CA0038713.5261	0001	0	ES-8

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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5.2.2 Existing Environment

The existing environment for noise, vibration and light generally formed the basis against which the residual Project and cumulative effects were assessed. An existing conditions assessment for noise and light that included data collection programs, were carried out between 2011 and 2012 for the Project to support the previous EIS (Alderon 2012); however, since the data are more than 10 years old, it was determined that additional data would be required to describe the existing ambient noise and light levels and to validate whether existing baseline levels have changed when compared to those measured in 2011 and 2012. Baseline field studies were conducted in 2024 to support the characterization of the noise and light existing environment. The field studies measured existing noise and light levels in areas where human activity is expected to occur within the vicinity of the Project.

For the noise assessment, the existing conditions were established through a combination of a desktop study that identified potential points of reception and a baseline data collection program consisting of both unattended long-term continuous monitoring and attended short-term spot-check measurements carried out in the vicinity of the identified potential points of reception. Potential noise sensitive land uses were identified within the LSA and included permanent cabins, recreational cabins, recreational vehicle campsites and low-density residential dwellings. Any existing noise, vibration or light-sensitive receptors within the SSA were not carried forward through the assessment.

The results of the noise baseline program indicate that the existing noise levels within the Project area are primarily dominated by nature-based ambient sources including wind-induced noise due to vegetation, wildlife, and insects, and to a lesser degree by anthropogenic sources (such as local industrial activity and traffic along Highway 389/500/503). The levels established through the 2024 program were based on the removal of data captured during periods with inclement weather. This approach is a common industry practice and is conservative (i.e., established lower baseline conditions) when compared to using annual average levels when considering all meteorological conditions. Using these baseline levels is expected to result in a conservative assessment.

With the exception of the existing rail line, there are no known vibration generation sources identified near the proposed rail line or other areas within the proposed Project site. Most of the normal industrial vibration sources are attenuated below perception within the first 100 m from the source. Due to the absence of major anthropogenic activities in the vicinity of the Project site and along the proposed rail line alignment, ambient vibration is expected to be below average human perception levels, with the exception of being in the vicinity of blasting operations at existing mines.

The light study comprised of measuring light trespass and sky quality during the nighttime period. Light trespass and sky quality at the measurement locations were generally affected by street and commercial lighting and lighting from nearby residences. The sky quality measurement results from the 2024 baseline program were generally lower than those presented in the previous EIS (Alderon 2012), expected to be due to a general increase in human activities over the past decade in the larger Project area, except for in Duley Lake Provincial Park which were similar. The lower sky quality indicates higher sky glow caused by reflection from the atmosphere of human-made lighting.

5.2.3 Effects Assessment

5.2.3.1 Pathway Screening

As part of the effect pathway screening, proposed environmental design features and mitigation measures were considered to determine whether effects on the environment could be avoided or reduced to negligible levels, thereby removing the pathway. Noise from the Project will primarily result from the use of heavy mobile equipment, processing equipment and rail activity. Vibration related to the Project will result from blasting and the use of heavy mobile equipment. Light from the Project will primarily be from mobile equipment and fixed lighting. Therefore, a number of mitigation measures to control noise, vibration, and light during the Construction, Operations, and Closure phases of the Project have been proposed.

After mitigation measures were considered, the pathways screening analysis determined that the Project could adversely affect noise, vibration and light from the following residual effect pathways:

- Project activities can change noise levels during Construction and Operations
- Project blasting and the use of heavy equipment can affect vibration during Construction and Operations
- Project lighting can change light levels during Construction and Operations

These residual effect pathways were carried forward to the residual Project and cumulative effect analyses.

5.2.3.2 Residual Project Effect Analysis – Noise

A quantitative noise assessment of noise levels during the Project's Construction and Operations phases was carried out in accordance with *International Organization for Standardization (ISO) Standard 9613-2 Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation*, dated December 1996 (ISO 9613-2:1996), implemented in the CadnaA noise prediction modelling software. The results of the assessment were compared to Health Canada and Quebec Noise Guideline criteria (Health Canada Noise Guideline; Health Canada 2023).

The residual effects analysis for noise considered the following measurable parameters:

- nighttime maximum sound level (Lmax)
- day-night sound level (Ldn)
- daytime sound level (Ld)
- nighttime sound level (Ln)
- percent highly annoyed (%HA)

Noise from the Project has the potential to cause an adverse effect during Project Construction and Operations. Taking into account the implementation of the mitigation measures and the methods carried out, the magnitude of the residual effects from the increased noise during Construction has the potential to range from low to moderate, depending on the distance between the identified potential points of reception and the construction activities. Therefore, conservatively the residual effects were assessed to be moderate. For Operations, magnitude of effects is predicted to be moderate, because perceptible changes in noise levels (i.e., change in ambient noise levels that could reach 5 dB) due to the Project may occur, but Health Canada and Québec Noise Guideline criteria are expected to be met. The residual effects were assessed to be local in geographic extent as the effects are limited to the LSA, and short term for the Construction phase and medium term for the Operations phase. The effects are reversible as they will cease when Project Construction and Operations cease. The Construction effects are periodic as they are expected to be intermittent during Construction and continuous during Operations as they are expected to occur all the time during Operations. Local communities, cabins, and existing mining operations contribute to the existing noise environment and therefore the ecological and socioeconomic context is considered to be disturbed.

5.2.3.3 Residual Project Effect Analysis – Vibration

Vibration estimates for the Project were calculated using published vibration attenuation models such as those from the International Society of Explosives Engineers (ISEE 2016), the United States Federal Transit Administration (FTA 2018) and Fisheries and Oceans Canada (DFO) (Wright and Hopky 1998). Ground vibration levels as well as air and water overpressure were predicted using those models. As the province of NL does not have regulations or guidelines for the assessment of environmental vibration from industrial and/or mining facilities, federal, provincial and municipal regulations and/or guidance for vibration from other regions was considered applicable for mining projects. The limits provide within these regulations and/or guidance were compared with the calculated vibration levels.

The residual effects analysis for vibration considered the following measurable parameters:

- peak particle ground vibration velocity
- root-mean square ground vibration velocity
- air overpressure
- water overpressure

Vibration from the Project has the potential to cause an adverse effect during Project Construction from blasting and the use of mobile equipment during general construction activities, and during Operations due to the ongoing use of blasting at the mine. Vibration levels can be expected to increase at the potential points of reception, on occasion, due to construction and operation activities. The vibration levels are expected to increase the most during blasting activities. The magnitude of the residual vibration effects is predicted to be moderate, but vibration levels are expected to remain below the limits described within the vibration assessment. The residual effects were assessed to be local in geographic extent as the effects are limited to the LSA, and short term for the Construction phase and medium term for the Operations phase. The effects are reversible as they will cease when Project Construction and Operations cease, periodic as they are expected to be intermittent during Construction and Operation, and certain as they are required as part of the site preparation and startup, and for the extraction of rock during the development of the open pit mine.

5.2.3.4 Residual Project Effect Analysis – Light

The potential effect of the Project on existing light trespass and sky glow was assessed qualitatively. The residual effects analysis for light considered two measurable parameters:

- light trespass
- sky glow

Lighting was assessed against the criteria for sky glow and light trespass for Commission Internationale de l'Éclairage environmental lighting zones (CIE 2017), and sky glow limits established based on sky quality recommendations from the Institution of Lighting Professionals (ILP 2021).

Light from the Project has the potential to cause an adverse effect during Project Construction and Operations due to the use of mobile equipment, portable light plants (Construction), and fixed lighting (Operations). The magnitude of the residual effects from lighting is predicted to be moderate, because perceptible changes in light levels due to the Project may occur but Commission Internationale de l'Éclairage zone criteria are expected to be met. The residual effects were assessed to be local in geographic extent as the effects are limited to the LSA, and short term for Construction effects and medium term for Operation effects. The effects are reversible as they will cease when the Project Construction and Operations cease, periodic as they are expected to be intermittent throughout Construction and Operation, and probable as they are likely to occur. Local communities, cabins, and existing mining operations contribute to the existing lighting environment and therefore the ecological and socioeconomic context is considered to be disturbed.

5.2.3.5 Residual Cumulative Effects Analysis

There are six RFDs that were identified as having spatial and temporal overlap and the potential to emit noise, vibration and light. These RFDs were considered qualitatively to determine if spatial or temporal overlap exists with the Project. The residual cumulative effects assessment for the noise, vibration and light VECs considered the distance between the Project and the RFDs and concluded that no potential cumulative effects were anticipated.

5.2.3.6 Determination of Significance

For the Construction phase, as the magnitude of the residual Project effect on noise was assessed to be moderate, the duration to be short-term and the frequency of the effect was assessed to be periodic, the residual Project effect is predicted to be not significant during Project Construction.

For the Operations phase, as the magnitude of the residual Project effect on noise was assessed to be moderate, the duration to be medium-term and the frequency of the effect was assessed to be continuous, the residual Project effect is predicted to be not significant during Project Operations.

As the magnitude of the residual Project effects on vibration were assessed to be moderate and the frequency is periodic, the residual Project effect is predicted to be not significant.

As the magnitude of the residual Project effects on light were assessed to be moderate and the frequency of the effects were assessed to be periodic during Project Construction and Operations, the residual Project effect is predicted to be not significant.

5.2.3.7 Prediction Confidence and Uncertainty

The characterization of residual Project effects incorporated a number of conservative assumptions to increase the confidence that the modelled noise and vibration predictions will not underestimate the effects of the Project. Uncertainty was considered to be moderate, as the Project-related effects are mostly understood, there is a level of certainty associated with the effectiveness of proposed mitigations, and conservative assumptions were applied.

5.2.4 Monitoring, Follow-Up, and Adaptive Management

A complaints-based process for noise, vibration and light will be established for the Project whereby persons can contact the Project team if there are perceived noise, vibration or light issues. Complaints will be investigated and, if justified, the noise, vibration or light source that caused the complaint will be minimized or eliminated where possible. Investigations can include noise, vibration or light monitoring as required.

Noise monitoring and/or measurements are recommended during the Construction and Operations phases to minimize overall adverse environmental effects potentially associated with Project activities and to support the Project's adaptive management approach and Environmental Protection Plan (EPP), and to confirm the findings presented in the EIS as the Project progresses. In addition, it is expected Champion will prepare the noise monitoring and/or measurement plan for both the Construction and

Operations phases, with support from the selected contractor to address the requirements for the Construction and Operations phases. The noise monitoring and/or measurement plan should be continuously reviewed and if required updated, as the Project progresses.

Vibration monitoring at receptor locations is expected to be required for general construction blasting activities to align with Quebec's Cahiers des charges et devis généraux (CCDG 2018) requirements and general industry practices. Vibration during Operations has also been recommended to support the Project's adaptive management approach and confirm the findings presented in the EIS. Blasting will also be monitored for ground vibration and underwater overpressure, as required by DFO, to confirm compliance with DFO's limits related to nearest fisheries habitat.

No light monitoring is recommended for the Project.

5.2.5 Comparison with Results of Alderon Environmental Impact Statement

A comparison of the Project's residual environmental effects characterization for the Construction and Operations phases on noise was completed between the previous EIS (Alderon 2012) and the current EIS. Overall, there is agreement between the characterizations of residual Project effects on noise.

For Project's residual effects on vibration, there is agreement between the characterizations of residual effects with the exception of magnitude during Construction. The magnitude during Construction in the current EIS was conservatively determined to be moderate based on the available information and the proposed mitigation measures. The Alderon EIS characterized the magnitude as low.

For the Project's residual effects on light, there is agreement between the characterizations of residual effects with the exception of magnitude and frequency. The magnitude in the current EIS was determined to be moderate based on the available information and the proposed mitigation measures, which are less restrictive than those proposed for the Alderon EIS. The Alderon EIS characterized the magnitude as low. The frequency in the current EIS was determined to be periodic during Construction and Operations, whereas the Alderon EIS determined the frequency as sporadic during Construction and Regular during Operations.

5.3 Groundwater

Chapter 7, Groundwater, of the EIS provides a comprehensive assessment of potential effects of the Project on groundwater.

5.3.1 Assessment Scoping

Groundwater is selected as a VEC as there is potential for disruption or contamination of the groundwater drinking supply for nearby users and potable water supply requirements for the various stages of the Project and therefore requires assessment. Furthermore, groundwater is an integral component of the hydrologic cycle that can interact with and indirectly affect surface water resources and freshwater ecosystems at points of discharge.

Groundwater can be a critical water transport pathway between the various Project components and adjacent surface water resources. Conversely, groundwater can transmit water from surface water sources and permeable aquifers towards Project components such as open pits and excavations. The physical quantity and chemical quality of the groundwater will vary as groundwater flow components interact with Project-related infrastructure and operations, soil and rock, ecological receptors, surface water, and people, throughout all phases of the Project. The EIS Guidelines (Government of NL 2024) require an evaluation of the effects of the Project on groundwater quality and quantity, including how to avoid or minimize the potential effects to groundwater.

Two measurable parameters were identified and used for the assessment of effects on groundwater:

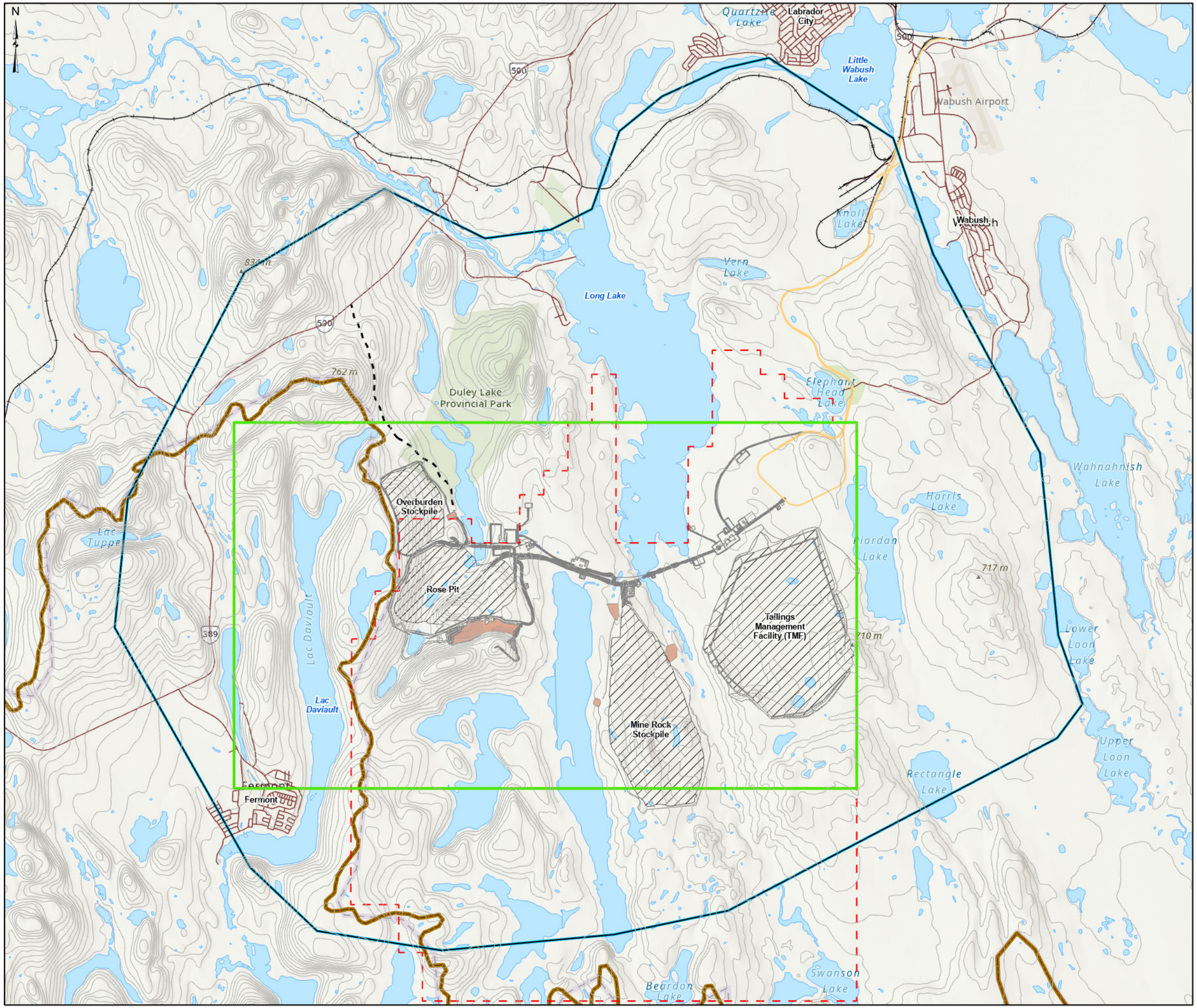
- changes in groundwater quantity
- changes in groundwater quality

The spatial boundaries for the groundwater assessment include the SSA, as well as an LSA and RSA, which are provided in Table ES-9 and shown in Figure ES-9.

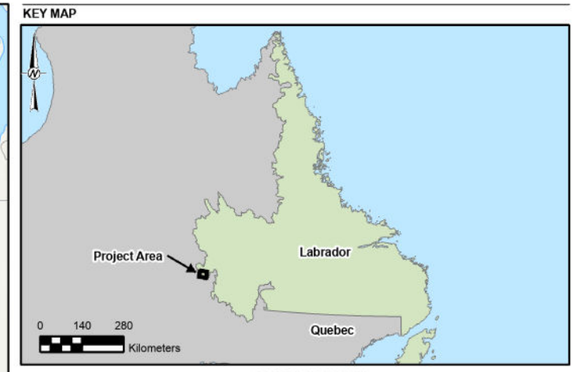
Table ES-9: Spatial Boundaries for Assessment of Groundwater Valued Environmental Components

Study Area	Area (ha)	Description/Rationale
LSA	9,205	Includes area where effects on groundwater levels due to Project activities are anticipated and can be reasonably predicted by the numerical model. Includes Rose Pit, TMF, overburden stockpile area, the mine rock stockpile area, Daviault Lake, Gleeson Lake, Duley Lake, Mills Lake, Molar Lake, and Pike Lake.
RSA	20,000	Includes SSA, LSA and extends to limits of numerical groundwater flow model (mesh boundary). Provides broader context for the assessment of Project effects on groundwater and provides an appropriate scale to assess cumulative effects from the Project combined with existing conditions

LSA = local study area; RSA = regional study area; SSA = site study area; TMF = tailings management facility.



KEY MAP



SCALE 1:20,000,000

LEGEND

- Existing Railway
- Existing Road
- Proposed Access Road and Railway Corridor
- Potential Access Road
- Proposed Sedimentation Pond
- Proposed Infrastructure
- Labrador/Quebec Boundary
- Contour
- Waterbody
- Project Infrastructure
- Kami Surface Lease Area
- RSA
- LSA

0 2 4

1:80,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS: WORLD TOPOGRAPHIC MAP: SOURCES: ESRI, TOMTOM, GARMIN, FAO, NOAA, USGS, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
WORLD HILLSHADE: ESRI, NASA, NGA, USGS
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

GROUNDWATER ASSESSMENT BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	RRD
REVIEWED	CB
APPROVED	KB

PROJECT NO.	CONTROL	REV.	FIGURE
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PATH: S:\Clients\Champion_Iron_Ore_Mines\Kami Iron Ore\99_PRO\CA0038713.5261_EIS\40_PRO\0027_ES\CA0038713_5261_0027_ES_0009.aprx, PRINTED ON: AT: 11:05:18 AM

5.3.2 Existing Environment

Overburden at the Project site was determined through borehole drilling programs and generally consists of veneers of organic soils overlying sequences of undifferentiated glacial till, and occasional glacio-fluvial and fluvial deposits. Overburden thickness is varied across the LSA; within the vicinity of Rose Pit area glacial till thicknesses range from 0.9 to 62.2 m, outside of the pit area south of Duley Laketill thicknesses range from 0.2 to 48.4 m.

The bedrock at the Project site consists of the highly metamorphosed and deformed metasedimentary sequence in the Grenville Province of the Labrador Trough (Stantec 2012a). Middle Proterozoic aged Archean granite gneiss is overlain by the metamorphosed sequences of the Ferriman Group, which includes: Denault (Duley) Formation dolomitic and calcitic marble, Wishart (Carol) Formation quartzite, schist and quartz pebble conglomerate, Sokoman (Wabush) Formation, and the Menihek Formation. The Sokoman Formation includes iron oxide, carbonate, and silicate facies and hosts iron oxide deposits, while the Menihek Formation consists of marine sediment deposits with dykes and sills of biotite-garnet-amphibole commonly found throughout all formations, but particularly within the Menihek Formation. Two significant fault-zones have been identified within the LSA throughout the drilling programs: The Katsao-Wishart Fault and the Central Fault.

Regional hydrogeologic information was obtained from The Hydrogeology of Labrador (AECOM 2013). The Project area is characterized by rugged bedrock dominated uplands that have been carved by glacial erosion to form valleys, as a result, both surficial (till) and bedrock aquifers are present throughout the region.

Groundwater depths vary across the site and generally reflect the topographic relief of the area. Manual groundwater levels in the pit area were measured in 32 monitoring wells during the baseline water resources study (Stantec 2012b) and have been monitored with automated dataloggers in 8 monitoring wells from 2013 to 2021, some of the dataloggers are still installed and collected data at present. Further baseline data collection for water levels in the other Project component areas such as the overburden and waste rock stockpiles, and the TMF area are planned for 2025.

Groundwater flow directions at the site were characterized by water level monitoring to determine the general direction of groundwater flow, as well as hydraulic gradient estimations to determine the magnitude of groundwater flow in a given direction. Groundwater flow directions generally follow topography from upland territory to valleys.

In terms of groundwater quality, the major ion concentrations of all sampled groundwater were similar, and generally described as clear to slightly coloured, moderately soft, neutral to slightly acidic, calcium-bicarbonate type water with low total dissolved solids.

Hydraulic conductivity (K) values range from 2.4×10^{-7} to 2.6×10^{-5} with an average of 1.2×10^{-6} m/s for till at the Project site. K was estimated in four wells screened at the till/shallow bedrock contact; K values ranged from 3.2×10^{-8} to 1.2×10^{-6} with an average of 1.8×10^{-7} m/s. K values in bedrock range from 1.0×10^{-8} to 2.8×10^{-6} with an average of 1.2×10^{-7} m/s were measured for shallow bedrock. Two deeper boreholes were drilled within the centre of the Pit area had measured K values range from 8.6×10^{-8} to $>1.0 \times 10^{-5}$ with an average of 2.4×10^{-6} m/s. The packer tests revealed zones of elevated hydraulic conductivity which exceeded the range of the packer test method ($> 1 \times 10^{-5}$ m/s); these are attributed to the Central Fault.

Based on public desktop information, no municipal groundwater supplies are found within the assessment boundaries; the municipalities of Fermont, Labrador City, and Wabush in the RSA use surface water resources as their drinking water supply. No groundwater wells were found within the Québec portion of RSA. Information provided by the NL Department of Environment and Climate Change indicates that one well located on the southwest shore of Duley Lake is located within the LSA. Groundwater users within the RSA are all for domestic use to supply their cabin/property. The majority of the groundwater users within the RSA are located along the northwest shore of Duley Lake.

5.3.3 Effects Assessment

5.3.3.1 Pathway Screening

As part of the effect pathway screening, proposed environmental design features and mitigation measures were considered to determine whether effects on the environment could be avoided or reduced to negligible levels, thereby removing the pathway. Project environmental design features such as the pit design, surface water and water treatment infrastructure, and the tailings management facility were designed to minimize the Project's effects on groundwater. Other mitigation, such as, re-use of treated water and implementation of other standard practices will minimize the effects of the Project on groundwater. After mitigation measures were identified and considered, the pathways screening analysis determined that the Project could adversely affect groundwater from the following residual effect pathways, which were carried forward into the residual effects analysis:

- groundwater quantity during the Operations phase of the Project

5.3.3.2 Residual Project and Cumulative Effects Analysis

A residual Project effects analysis was conducted to assess the potential effects of the Project on groundwater. The residual effects analysis considered one measurable parameter: groundwater quantity (i.e., lowering of water levels due to pit dewatering). The residual effects analysis used a precautionary approach that conservatively represented the potential Project-related effects on groundwater.

During Operations, dewatering from the pit wall has the potential to cause a lowering of groundwater levels in the overburden and bedrock aquifers both within the local and surrounding areas. According to studies completed for the Project (TSD V provided with the EIS), it is expected that the lowering of the water table will have an effect of the groundwater supply for existing users in the area (if present) and local habitat; therefore, residual effects are anticipated. Preliminary assessment suggests that the effect of the mine dewatering will be limited to the watershed hosting the open pit. Drawdown effects are not expected to extend more than about 1,000 m from the open pit mine or into Québec.

Water balance and water quality modelling completed by Champion indicates that as the open mine pit is developed and operated, it is estimated that it will receive groundwater seepage from nearby lakes, with the majority of seepage originating from Pike Lake. Mid Lake is diverted to Pike Lake to facilitate the redirection of clean, non-contact water around the pit. Nearby lake levels will be maintained as additional water is transferred from Duley Lake to Pike Lake to mitigate the effect of groundwater inflows from Pike Lake to Rose pit. Preliminary estimates were completed in 2024 of groundwater open pit mine inflow using numerical models of the area. The results conservatively estimated that dewatering rates during the years of operations (5 to 26 years) range between 16,261 and 40,849 m^3/day.

Information from the water balance model produce a time series of predicted annual flows to the pit during construction and operations based on the mean annual precipitation scenario. The model included groundwater flow into the open pit to be derived from direct precipitation, surrounding undiverted natural catchment run-off, pit wall run-off, and groundwater inflow. As the pit develops, pit natural catchment (non-contact) run-off decreases, while the pit wall run-off increases until year 10, when the pit wall reaches its maximum area. The predicted groundwater inflow to the pit shows a consistent upward trend through Operations, reaching 14.8 Mm^3 at the end of Operations for the mean annual precipitation scenario. The pit sump is dewatered into the pit collection pond.

Based on the results of the modelling, and in consideration of mitigation measures, the residual effect on groundwater quantity is predicted to be low to moderate (groundwater levels will fall below the maximum pit depth of 450 m below existing grade and extend beyond the pit footprint of 2.8 km^2), within the LSA, medium to long term in duration, and reversible within the closure timeline.

There is one known groundwater user located with in LSA; therefore, verification of its use and status should be completed prior to operations (prior to construction as well, if possible), and an alternative water supply of the same quantity and quality should be made available to the user or a make-good agreement should be prepared. As a result of the theoretic water level lowering, small base flow reductions in nearby streams should be balanced by the open pit mine discharge back into the hydrogeologic system. Following mine closure and reclamation, the mine pit will be partially filled with waste rock and tailings, and allowed to flood to equilibrium, resulting in pre-mine water table conditions.

A residual cumulative effects analysis was conducted to determine the potential effects of the Project and RFDs on groundwater. Five RFDs were considered to result in potential residual cumulative effects on groundwater. The identified projects were anticipated to not have the potential for cumulative effects with those of the Project as they are either located in a different watershed or outside the RSA beyond which the residual effects are not measurable for groundwater resources.

5.3.3.3 Determination of Significance

The residual effect of the Project on groundwater quantity as a result of pit dewatering during Operations is determined to be not significant.

5.3.3.4 Prediction Confidence and Uncertainty

The predicted effects on groundwater levels and baseflow from the Project are based on a steady-state groundwater flow model. Prediction confidence is high because the groundwater flow model was calibrated within an acceptable range of error for groundwater levels and groundwater discharge to surface water features. Further data collection to collect updated site water levels for an updated baseline are planned and further refinement of the groundwater flow model will be completed.

Predictions made using the model are based on several conservative assumptions to reduce the influence of uncertainty in the predictions, including the assumption of saturated waste rock piles, no attenuation of water quality along the flow paths, and that all mass of leached parameters from the piles will arrive simultaneously at the receptor. These assumptions result in a conservative

prediction of the mass loading in the early phases of the Project (i.e., operation) and provide a better (while still conservative) representation of long-term water quality through closure.

5.3.4 Monitoring, Follow-Up, and Adaptive Management

A Project groundwater monitoring system should be implemented that includes the installation of groundwater wells in accordance with applicable regulation. Instrument the dewatering and monitoring wells with continuous dataloggers, to allow for the establishment of threshold values which can be used to create a Trigger-Action-Response Plan and later be adhered to during the Operations phase.

Site reconnaissance indicates one well to be drilled within the LSA where effects to groundwater are measurable and anticipated. It is recommended that the well's status and usage be verified prior to construction. Options to reduce risk to the user would be to provide an alternative water supply of the same quantity and quality or to provide a make-good agreement. In the event that any supply wells are identified within proximity to the Project, appropriate steps will be taken to inspect and monitor.

An Adaptive Management Plan will be prepared to manage uncertainty during the Project phases and will be included in the EPP. Groundwater considerations will be included in the adaptive management framework.

5.3.5 Comparison with Results of Alderon Environmental Impact Statement

The previous EIS had similar conclusions, as all residual effects associated with groundwater quantity and quality were predicted to be low in magnitude and not likely to be significant. However, it should be recognized that the previous effects assessment was not based on the results of the updated hydrogeological modelling (TSD V). To this end, the updated hydrogeological modelling and effect assessment has reduced uncertainty in the hydrogeological environment and increased confidence in effect predictions.

5.4 Surface Water

Chapter 8, **Surface Water**, of the EIS provides a comprehensive assessment of potential effects of the Project on surface water.

5.4.1 Assessment Scoping

Development of Project infrastructure and activities are expected to effect surface water in various capacities and at varying magnitudes. To identify key issues for the Project EIS guidelines, record of engagement, past experiences with mining projects in Labrador, and issues identified in previous Kami EIS were reviewed.

To assess Project effects on surface water, surface water quantity, surface water quality and sediment quality were selected as VECs based on their connection to aquatic and terrestrial ecosystem and human health. Surface water VECs were selected because these are valued by Indigenous groups, local residents and the Government; important for the protection of aquatic habitat, and potable water supplies, and directly link to surface water and sediment quality, groundwater quality and quantity, and affects to groundwater–surface water interactions.

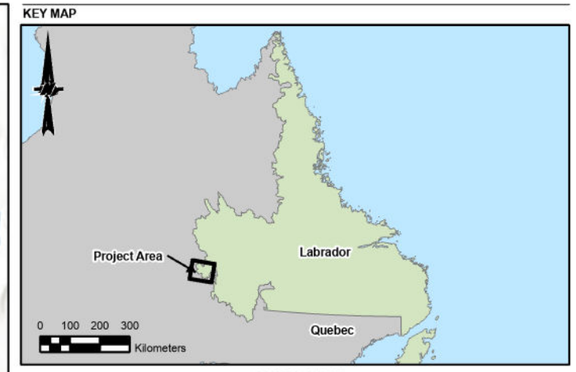
The spatial boundaries for the surface water assessment include the SSA, as well as an LSA and RSA, which are provided in Table ES-10 and shown in Figure ES-10.

Table ES-10: Spatial Boundaries for Assessment of Surface Water Valued Environmental Components

Study Area	Area (ha)	Description/Rationale
LSA	31,326	Includes several waterbodies and water courses or local watershed and sub-watersheds around the Project that overlap with the Project and represents the scale to which most or all effects to surface water from the Project are anticipated.
RSA	152,906	Includes the area of the LSA plus the furthest extent to which cumulative effects from the Project activities could occur and significance of those effects could be predicted.

LSA = local study area; RSA = regional study area; SSA = site study area.

KEY MAP



SCALE 1:240,000

Legend

PROJECT DATA

- Proposed Project Infrastructure
- Regional Study Area (RSA)
- Local Study Area (LSA)
- Site Study Area (SSA)
- Potential Access Road
- Duley Lake Park
- Labrador/Quebec Boundary
- Public Water Supply

0 3,000 6,000 12,000

1:240,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS: WORLD TERRAIN BASE: SOURCES: ESRI, TOMTOM, GARMIN, FAO, NOAA, USGS, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
WORLD HILLSHADE: ESRI, NASA, NGA, USGS
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

SURFACE WATER SPATIAL BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	GM
REVIEWED	MS
APPROVED	KB

PROJECT NO.	CONTROL	REV.	FIGURE
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5.4.2 Existing Environment

The 2023-2024 surface water study was conducted to collect information on the surface water quantity, surface water and sediment quality to characterize the baseline conditions in the watersheds within the LSA. Previous sampling programs took place in 2011 and 2012 (Stantec 2012b). The purpose of the 2023-2024 sampling program was to characterize baseline conditions according to the new Project footprint prior to any future mine development and to compare the results to previous assessment (Stantec 2012b).

Meteorology

The climate data for this site was gathered from an Environment and Climate Change Canada weather station at Wabush Airport and analyzed for monthly and seasonal trends.

Watershed Delineation and Drainage

Local watershed of waterbodies within the LSA and the flow direction maps were generated. Hydrology within the LSA was found to generally drain to the northeast through a series of wetlands, lakes and streams which are all part of the Churchill River Watershed, except the sub-watershed of Daviault Lake that drains to south and is a part of St. Lawrence drainage area.

Lake Bathymetry

Bathymetric surveys were carried out at Duley Lake, Mills Lake, Pike Lake, and Riordan Lake, whereas lake depth surveys were conducted at Daviault Lake and Molar Lake. Comparison of historical bathymetry results (Stantec 2012b) at the southern end of Duley Lake to 2023-2024 bathymetric survey results showed consistent bathymetric characteristics.

Water Level and Flow Monitoring

Water level monitoring was undertaken at six lake stations located on Daviault Lake, Duley Lake, Mills Lake, Molar Lake, Pike Lake and Riordan Lake to evaluate seasonal lake level regimes for key surface waterbodies (lakes) in the LSA.

Water levels at lake stations were generally in correlation with rain events. Water levels were observed to gradually decrease from June 2023 to August 2023 (spring to summer), gradually increase from August 2023 to October 2023 (summer to fall) correlating with rain events, and then gradually decrease in winter months. Elevated water levels in May 2024 were indicative of spring freshet and / or beaver activity. The water levels, at two lakes (Duley Lake and Mills Lake), generally reported a marked response to rain events. At Molar Lake, water level records showed unusual sudden fluctuations, which are comparable to a pumped system with rapid withdrawal and release responses. At Pike Lake, water levels showed an unusual steady increase in the lake level after mid-August 2023, which likely was caused by beaver dams, that were observed during the October 2023 and August 2024 visits, located at the outlet of Pike Lake. Comparison of 2011-2012 historical water levels (Stantec 2012b) at Mills and Duley Lakes with the 2023-2024 water levels, at stations located in proximity of historical stations, showed similarity in range and / or seasonal water level trends. Similar to 2023-2024 water levels, historical water levels also indicated increase in water levels at lake stations due to spring freshet from mid-April to May.

Twelve additional monitoring stations at watercourses and lake outlets in the LSA were installed to monitor for both water levels and flows to evaluate the seasonal water level and flow regimes. Flow and/or water level hydrographs at the watercourse and lake outlet stations were in correlation with rain events generating moderate to high flows. Similar to lake stations, watercourse water levels correlated well with rain events and were observed to gradually decrease in June 2023 to August 2023, and then gradually increase from August 2023 to October 2023 followed by gradual decrease in the winter months of 2023 and 2024. Major water level changes, observed in May 2024, were indicative of spring freshet and / or beaver activity. Majority of watercourse stations water levels exhibited a marked, but gradual response to major rain events. Only three watercourse stations exhibited rapid and flashy hydrologic response to precipitation events characterized by higher peaks with steep rising and falling limbs. Comparison of 2011-2012 historical water levels and flows (Stantec 2012b) with the 2023-2024 water levels and flows, at stream stations located in proximity of historical stations, showed similarity in range and / or seasonal water level trends. Similar to 2023-2024 water levels, historical water levels also indicated increase in water levels at stream stations due to spring freshet from mid-April to May.

Manual flows were measured three times each in the 2023 (June, August, October) and 2024 (March, June, August) campaigns at watercourse (steam) stations, and, where applicable, were used to develop stage-discharge rating curves to generate flow hydrographs using the continuous water level records. Note that the manual flows at additional four (4) stations (WC-13 to WC-16) were also measured during August 2024 only. In 2023, manual flows were observed to be higher in August, following an event response, while in 2024 manual flows were observed to be higher in June following the spring freshet. The 2023 measured flows ranged from 41 L/s (recorded in the June at an unnamed tributary discharging to Duley Lake from southeast) to 19,551 L/s (recorded in August downstream of the Duley Lake Outlet). The 2024 measured flows ranged from 14 L/s (recorded in August at an unnamed tributary discharging to Duley Lake from the southeast) to 7,076 L/s (recorded in August downstream of the Duley

Lake outlet). It should be noted that peak flows at the Walsh River could not measured due to safety concerns. A comparison of 2011-2012 historical flows (Stantec 2012b) with the 2023-2024 flows, at stations located in proximity to historical stations, showed that the historical flows were generally close to and/or within the range observed in 2023-2024, noting that some deviations due to meteorological factors are generally expected when comparing with historical results.

Lake Column Profiling

Lake Column profiles were completed at six lakes (Duley Lake, Pike Lake, Daviault Lake, Mills Lake, Molar Lake, and Riordan Lake). Temperature profiles showed that the reference and study lakes generally begin to thermally stratify in mid-June with the upper thermal layer increasing in temperature, become well stratified with a marked thermocline through the intermediate layers in August, and turnaround completely in October with well mixing (i.e., no thermally stratified conditions). Water column profiles at each of the lake basin stations also showed relatively stable electrical conductivity and dissolved oxygen with depth. The pH conditions at all lake basin stations were generally near neutral throughout the water column and demonstrated minor variations over depth and season, except for three lakes (Molar Lake, Daviault Lake, and Mills Lake) where variation in pH was observed in August 2024.

Water and Sediment Quality

Water and sediment quality sampling was conducted at 25 and 23 watercourses and waterbodies (lakes) stations, respectively, in the LSA. Samples were collected during sampling events in 2023 (June, August, and October) and 2024 (March, June, and August). Samples were analyzed for several parameters including general chemistry, anions and nutrients, metals, radionuclides, and polycyclic aromatic hydrocarbons (PAHs). The results of the surface water and sediment quality aspects of the field and laboratory investigations demonstrated that, with some exceptions, the stations located in watercourses and lakes were below the relevant water and sediment quality guidelines. Only a few water quality samples reported slight exceedances of the Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines for the Protection of Aquatic Life – Freshwater (CCME 1999a) for a small group of metals (i.e., aluminum, iron, manganese, lead, and copper), noting that the phosphorous was observed to exceed ultra-oligotrophic conditions and the observed concentrations ranged from ultra-oligotrophic to meso-eutrophic conditions. The sediment quality results were also noted to be below CCME Sediment Quality Guidelines for the Protection of Aquatic Life Freshwater and Marine Interim Sediment Quality Guidelines/Probable Effect Level (CCME 1999b), noting that the observed concentrations of some metals (i.e., arsenic, cadmium, chromium, copper, lead, mercury, and zinc) were elevated relative to CCME Interim Sediment Quality Guidelines at certain locations.

5.4.3 Effects Assessment

5.4.3.1 Pathway Screening

As part of the effect pathway screening, proposed environmental design features and mitigation measures were considered to determine whether effects on the environment could be avoided or reduced to negligible levels, thereby removing the pathway. Project environmental design features such as the water management infrastructure, effluent and sewage treatment plants, effluent diffuser, water transfer system and use of high-density polyethylene geomembrane were designed to minimize the Project's effects on surface water.

Proposed mitigations such as the recycling and reuse of process water, site water management procedures, erosion and sediment control and implementation of Project-specific management plans would also reduce effects on surface water quantity, and surface water and sediment quality.

After mitigation measures were considered, the pathways screening analysis determined that the Project could adversely affect surface water quantity and quality from the following residual effect pathways:

- Water withdrawal could result in changes to surface water quantity.
- Discharge of treated effluent could result in changes to surface water quality and quantity.
- Site drainage and run-off could result in changes to surface water quality and quantity.
- Seepage from the overburden stockpile , mine rock stockpile, and TMF could result in changes to surface water quality.
- Wash-off of explosive spills and residues from blasting activities could result in changes to surface water quality.

Therefore, these pathways were carried forward into the residual project effects analysis. Effect pathways that could result in changes to sediment quality were all determined as negligible effect pathways. However, since the sediment quality is linked to water quality, residual Project effects on sediment quality from the changes in surface water quality are expected and were considered as part of the residual effects analysis.

5.4.3.2 Residual Project and Cumulative Effects Analysis

A residual Project effects analysis was conducted to determine the potential effects of the Project on surface water. The residual effects analysis considered three measurable parameters:

- surface water quantity–changes to flows, water levels, and water balance components
- surface water quality–changes to water quality constituent concentrations
- sediment quality–changes to sediment quality constituent concentrations

The pathways that resulted in residual effects were further assessed using prediction models and were characterized based on the residual effect assessment results. The emphasis of the surface water quantity assessment was the comparison of modelled flows and water levels for Pre-Mine and Mine conditions, whereas the emphasis of surface water quality assessment was the comparison of modelled water quality contaminants of potential concern (COPC) concentrations in the receiving environment for Construction, Operations, Closure phases and Post-closure (the far-future) period relative to the background/existing conditions, established water quality criteria/thresholds and site specific water quality objects (SSWQOs) for the Project. SSWQOs are toxicologically based benchmarks that are protective of aquatic health endpoints and are developed using established science-based procedures for derivation. Changes to sediment quality were assessed qualitatively in relation to changes in surface water quality.

Surface Water Quantity

The predicted net change to discharges at Duley Lake (located downstream of Pike Lake), that represent the end point of the LSA, are predicted to be within 10%, therefore the overall magnitude of residual effect is expected to be low. Residual effects are expected to long-term but reversible following the completion of pit flooding during the Closure phase.

Surface Water Quality

Project effects during the Project lifespan (i.e., Construction, Operations, and Closure phases) are anticipated to be adverse in nature for surface water quality, as most COPC concentrations would increase from the average existing/background concentrations during Project lifespan. The incremental changes to COPC concentrations were predicted to extend beyond Duley Lake; however, most COPC concentrations would remain below water quality guidelines/thresholds and/or SSWQOs (selenium for Duley Lake and cobalt) in the downstream LSA waterbodies. Within the LSA, selenium concentration at Pike Lake is predicted to exceed CCME during the Post-closure period. At Walsh River (located downstream of Pike Lake and discharging to Duley Lake), selenium concentrations are predicted to reduce relative to Pike Lake and remain below selenium SSWQO for Duley Lake. Overall, the geographical extent of the residual effects on the water quality would be local and overall magnitude would be low.

The maximum duration of Project-related changes to surface water quality would be 74 years, which includes the 26-year Operations phase where maximum COPC concentrations were projected, followed by a period of 49 years (Closure and Post-closure) where COPC concentrations decrease to near average background concentrations and remain below Project thresholds. For the water quality constituent concentrations, Project residual effects on COPC concentrations would reach a maximum towards the end of the Operations phase; these residual effects were most obvious in Pike Lake and Duley Lake. Therefore, the duration of residual effects on surface water quality is anticipated to be long-term.

The assessment results indicated that the Project-related changes to predicted COPC concentrations in Duley Lake and waterbodies in the LSA would be irreversible during Construction and Operations; however, during Closure and Post-closure, changes would be reversible because most COPC concentrations would achieve near background concentrations after the cessation of site discharges at the end of the Operations phase. However, the predicted selenium concentrations in Pike Lake are irreversible.

Sediment Quality

Direct changes to sediment quality due to Project components/activities were assessed to be negligible in effect pathway screening. However, sediment quality can be affected due to changes in water quality and therefore sediment quality was also assessed qualitatively and semi-quantitatively in relation to predictions of changes in water quality. Semi-quantified assessment of sediment water quality parameters with CCME guidelines/thresholds showed that due to Project effects sediment quality parameters, whose background concentrations exceeded CCME Interim Sediment Quality Guideline, would generally exceed CCME Interim Sediment Quality Guidelines during the Operations phase; however, predicted concentrations would generally return to near existing/background conditions during the Closure phase and Post-closure period. Other parameters that showed exceedance due to Project residual effects included zinc at Pike Lake and copper at Duley Lake and Duley Lake outlet. None of the parameters with

CCME guidelines/thresholds exceeded the CCME-Probable Effect Level threshold above which adverse biological effects are expected to occur more frequently.

Like water quality, the geographical extent of the residual effects on the water quality would be local and the magnitude would be low. The duration of residual Project effects on sediment quality is anticipated to be long term. The assessment results in relation to water quality indicated that the Project-related changes to sediment quality parameters in Duley Lake and waterbodies in the LSA would be irreversible during the Construction and Operations phases; however, during the Closure phase and Post-closure period changes would be reversible because water quality would improve and achieve near background concentrations after the cessation of site discharges at the end of Operations.

Cumulative Effects

Four projects were identified that have the potential to contribute to the cumulative effects: the Scully Mine Tailings Impoundment Area Expansion Project, the Rio Tinto Iron Ore Company of Canada (IOC) Western Hillside Tailings Pipeline Project, the Rio Tinto IOC Humphrey South Extension Project and the Rio Tinto IOC Smallwood North Extension Project. For all four projects, the expected mitigation measures are expected to mitigate predicted effects to surface water, and cumulative effects were predicted to be negligible. In addition to human activities, climate change and related effects (e.g., extreme weather, increased frequency and intensity of extreme weather events, wildfires) may contribute cumulatively to surface water. Climate change was considered qualitatively in the assessment of cumulative effects to surface water. Because of the uncertainty in direction and magnitude, it was conservatively assumed that climate change would have an adverse cumulative effect on surface water.

5.4.3.3 Determination of Significance

Based on the assessment results, planned mitigation and environmental protection measures, and environmental monitoring and adaptive management, residual project effects on surface water quantity, surface water quality and sediment quality were determined to be not significant.

5.4.3.4 Prediction Confidence and Uncertainty

The prediction confidence and uncertainty were aimed to identify key sources of uncertainty and explain how these uncertainties were managed for surface water.

Confidence in effects analyses for surface water can be related to several factors, including the following:

- adequacy of baseline data to understanding of the existing/background conditions and range of natural and seasonal variation
- future fluctuations in ecological, cultural, and socioeconomic variables, independent of the Project
- assumptions and constraints of quantitative model inputs
- accuracy and reliability of source terms, models, and software
- understanding of Project-related effects on complex social-ecological systems
- knowledge and experience with the type of effect in the system
- effectiveness of proposed environmental design features or mitigation
- uncertainties related to the location, footprint, activity level, and timing of future developments

Uncertainty was managed by:

- reviewing historical data and relevant studies completed in the LSA and RSA
- conducting regional analysis of hydroclimate baseline data
- performing quality assurance and quality control on baseline data
- incorporating conservative estimates, inputs, and assumptions
- using known constituent concentrations for similar site analogues when the information was unavailable
- developing robust water management infrastructure and mitigation measures to address potential uncertainties (e.g., capture and routing of contact water to a central discharge location)
- calibrating the prediction models to measured data
- conducting sensitivity analysis on key parameters

Uncertainties in baseline data, prediction models and effects assessment were considered in a manner that increased confidence on effects assessment. Overall, the confidence level of assessment was considered to be high for surface water quantity and quality, and moderate for sediment quality.

5.4.4 Monitoring, Follow-Up, and Adaptive Management

Monitoring and follow-up are required to confirm effects predictions and to address Project uncertainties. A surface water monitoring program will begin after the project approval and prior to Project initiation to ensure that the Project activities remain in compliance with applicable legislation/regulations, permits/approvals and to assess the performance of proposed mitigations and enhancement measures.

In addition to follow-up and monitoring programs, a Real-Time Monitoring Network Agreement in consultation with the Water Resources Management Division will be prepared and submitted to the Minister of Environment and Conservation, to receive the Minister's approval for the Real-Time Monitoring Network Agreement prior to the start of Construction.

5.4.5 Comparison with Results from Alderon Environmental Impact Statement

The overall conclusion of this assessment is similar to the previous EIS (Alderon 2012), as the effect assessment results of the previous assessment were summarized to result in localized changes to surface water that would be low in magnitude. However, the addition of planning tools such as the Hydrogeology Model (TSD V) and WBWQM (TSD VI), and description, design and proposed implementation of environmental design features such as the water management infrastructure (EIS Chapter 2 and TSD II) have increased the level of confidence of this assessment. However, the addition of planning tools such as the Hydrogeology Model (TSD V) and Water Balance and Water Quality Model (TSD VI), and description, design and proposed implementation of environmental design features such as the water management infrastructure (EIS Chapter 2 and TSD II) have increased the level of confidence of this assessment. The water balance and water quality modelling (TSD VI) were not completed for the previous EIS, and in absence of this modelling, the findings from the previous EIS in regard to hydrology and surface water quality are not comparable to the outcomes of the updated assessment for potential residual effects to surface water.

5.5 Fish and Fish Habitat

Chapter 9, Fish and Fish Habitat, of the EIS provides a comprehensive assessment of the potential effects of the Project on fish and fish habitat.

5.5.1 Assessment Scoping

Fish and fish habitat was selected as a VEC due to its ecological, cultural, economic, and recreational value to Indigenous groups, the public and the government. Fish and fish habitat are defined as follows:

- Fish habitat refers to waters inhabited by fish, either temporarily or permanently, which directly or indirectly support their life processes, including, but not limited to, spawning, nursing, rearing, and migrating (Government of Canada 1985).
- Fish refers to shellfish, crustaceans, and marine animals, including, but not limited to, eggs, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals (Government of Canada 1985).

The quality and quantity of freshwater fish and fish habitat are key indicators of the overall health of an aquatic ecosystem. To assess effects to fish and fish habitat, two VECs were identified: fish health and fish habitat and productivity. Eight measurable parameters were identified to predict the Project's potential effect on fish health and fish habitat and productivity.

- **Fish health:** loss of fish, loss of species of conservation interest, and reduction in fish health (length/weight ratio), and alteration of water and/or sediment quality.
- **Fish habitat and productivity:** area of fish habitat lost or altered, barriers to fish passage, reduction or alteration of riparian vegetation, and change in river/stream flow (m^3/sec).

The spatial boundaries for the fish and fish habitat assessment include the SSA, as well as an LSA and RSA, which are provided in Table ES-11 and shown in Figure ES-11.

Table ES-11: Spatial Boundaries for Assessment of Fish and Fish Habitat Valued Environmental Components

Study Area	Area (ha)	Description/Rationale
LSA	8,915	This includes the area of the SSA and the areas where Project effects are anticipated to be measurable to some degree of confidence, encompassing many watercourses and waterbodies adjacent to the various Project footprints.
RSA	42,206	Includes the area of the LSA plus the furthest extent to which effects from Project activities could occur but are not anticipated to be directly measurable to a specific degree of confidence, including the watersheds that drain into Wabush Lake.

LSA = local study area; RSA = regional study area; SSA = site study area.

N

Labrador City

Town of Wabush

Duley Lake

Duley Lake Park

Pike Lake

Overburden Stockpile

Rose Pit

Rose Pit Sedimentation Pond

Lac Daviault

Mills Lake

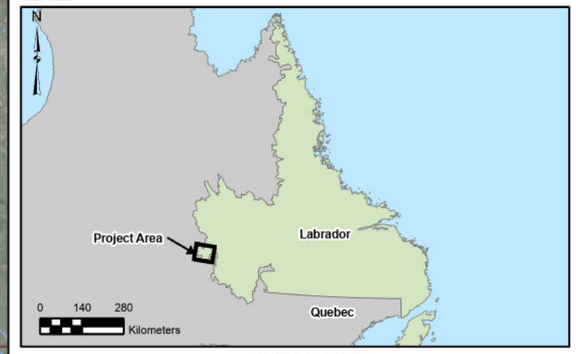
Mine Rock Stockpile

Tailings Management Facility

Riordan Lake

Fermont

KEY MAP



SCALE 1:20,000,000

Legend

- Fish Local Study Area (LSA)
- Fish Regional Study Area (RSA)
- Labrador/Quebec Boundary
- Duley Lake Park
- Proposed Sediment Pond
- Proposed Project Infrastructure
- Road
- Potential Access Road
- Watercourse
- Railway

0 2,500 5,000 10,000

1:200,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS: WORLD IMAGERY: EARTHSTAR GEOGRAPHICS
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

FISH AND FISH HABITAT ASSESSMENT BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	MS
REVIEWED	BM
APPROVED	JM

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5.5.2 Existing Environment

Eighteen ponds and lakes within and near the proposed Project footprint were surveyed, characterized, and/or quantified in terms of fish species presence and habitat using DFO guidelines. In addition to ponds within the proposed Project footprint, particular attention was paid to those located immediately downstream, as changes in water management may indirectly affect fish habitat outside the direct Project footprint. Where *Fisheries Act* determinations are heavily based on habitat and their support of fish populations, existing data on habitat characterization from previous surveys completed by Alderon was provided. Ongoing fish population validation surveys will supplement existing baseline data and inform follow-up monitoring and *Fisheries Act* offset requirements.

From 2011 to 2024, five general areas were surveyed, characterized, and quantified in terms of stream habitat and fish species presence using DFO guidelines: the Rose Pit watershed, the Pike Lake watershed, the TMF watershed, and the mine rock stockpile watershed. The location of proposed access to the site by road, rail, and possible conveyors have been modified during Project design; therefore, surveys of crossing locations were modified as locations changed. However, the final location of crossings is pending. When finalized, if locations differ from existing surveys, standard stream crossing surveys will be completed, and habitat conditions will be characterized and provided.

A total of 14 species within the Project area were identified (Table ES-12).

Table ES-12: List of Aquatic Species Present Within the Project Area, 2011 Through 2024

Common Name	Scientific Name	Present in Riverine Habitats	Present in Lacustrine Habitats
Brook trout	*Salvelinus fontinalis*	•	•
Burbot	*Lota lota*	•	•
Lake chub	*Couesius plumbeus*	•	•
Lake trout[1]	*Salvelinus namaycush*		•
Lake whitefish	*Coregonus clupeaformis*		•
Longnose dace	*Rhinichthys cataractae*	•	•
Longnose sucker	*Catostomus catostomus*	•	•
Ouananiche[(a)]	*Salmo salar*		
Northern pike	*Esox lucius*	•	•
Pearl dace	*Margariscus nachtriebi*	•	•
Round whitefish	*Prosopium cylindraceum*		•
Sculpin[(b)]	*Cottis bairdii/C.ognatus*	•	•
White sucker	*Catostomus commersonii*	•	•

(a) Species not observed throughout field surveys but were indicated as present in the area by local anglers and are likely present based on the literature review.

(b) Two species of sculpin are likely present. Field identification is difficult. Therefore, mottled and slimy sculpin are recorded as sculpin (*Cottis sp.*).

Throughout the lacustrine habitat surveys, relative abundance of all fish species was relatively low, with catch-per-unit efforts (CPUEs) typically less than 10 fish/net-night and overall CPUEs ranging from 1.0 to 326.0 fish/net-night. Lake chub were the most abundant species captured, primarily due to high catch rates in Rose Pond during 2011.

Brook trout were the most abundant species captured in riverine sampling locations and were found in all stations since 2011, with the exceptions of one station in 2011, three stations in 2012, and one station in 2024. The highest abundance estimates obtained in 2012 were for brook trout in two of the stations located within the TMF.

5.5.3 Effects Assessment

5.5.3.1 Pathway Screening

As part of the effect pathway screening, proposed environmental design features and mitigation measures were considered to determine whether potential effects on the environment could be avoided or reduced to negligible levels, thereby removing the pathway. Project environmental design features, such as the screening of intake pumps, road route alignment to minimize the number of crossing structures, the construction of effluent and sewage treatment plants, and water management infrastructure, were designed to minimize the Project's potential effects on fish and fish habitat. Implementing an EPP, including measures to address surface water protection, and an environmental effects monitoring program (EEMP) will also reduce potential adverse Project effects on fish and fish habitat.

After mitigation measures were considered, the pathways screening analysis determined that the Project could potentially adversely affect fish and fish habitat through the following residual effect pathway during Construction, Operations, and Closure:

- effluent release and seepage

The Fisheries Authorization Habitat Offsetting Plan (TSD IX) will compensate for the destroyed habitat resulting from the Project's construction, per the *Fisheries Act*, Section 35. The proposed remediation method involves creating a pool and weir-type fishway, providing greater accessibility for Atlantic salmon (*Salmo salar*) to a 32 km section of the St. Lewis River. The falls forming the partial obstruction are located approximately 28 km upstream of the river's main stem. In total, the offsetting project is expected to restore 3,440,900 m^2 of fish habitat to not only Atlantic salmon, but also brook trout, American eel, Arctic charr (*Salvelinus alpinus*), rainbow smelt (*Osmerus mordax*), three spine stickleback, and longnose sucker (*Catostomus Catostomus*). Given the offsetting, this pathway is considered negligible; and was not carried forward in the assessment.

5.5.3.2 Residual Project and Cumulative Effects Analyses

The residual effects of effluent release and seepage were measured against the measurable parameters for fish habitat and productivity and fish health VECs.

Fish Habitat and Productivity

While the Project activities are predicted to result in the loss and alteration of fish habitat and riparian habitat areas, the effects will be offset by the St. Lewis River Habitat Connectivity offsetting project. Effluent release and seepage are not anticipated to result in additional habitat lost or alternation that is not already considered by the offsetting project. To this end, residual effects to fish habitat and productivity from the loss or alternation of fish habitat from effluent discharge and seepage are not anticipated.

Effluent release and seepage are not anticipated to result in additional barriers to fish passage. To this end, residual effects to fish habitat and productivity from barriers to fish passage due to effluent discharge and seepage are not anticipated.

To predict the changes to river/stream flow, and in turn fish habitat a Water Balance and Water Quality Model (TSD VI) was developed that accounted for the changes to drainage pattern (including headwater areas upstream) and runoff to the receiving waterbodies, water takings, effluent discharges, seepage flows and water transfers between the Duley Lake and Pike Lake, and fugitive loadings from explosive spills. The end-of-mine years showed a discharge change from Duley Lake ranging from -2% to 18%, flow during winter due to effects from pit dewatering, which are conservative. Overall, the annual average discharge at Duley Lake outlet at the end of Operations is projected to be 1% lower than the pre-mine conditions. During the Closure phase, monthly discharge reductions are expected to range from -5% to -16%, with the largest flow reduction occurring during the winter due to effects from water transfers to accelerate pit flooding. Overall, the annual average discharge at Duley Lake outlet during Closure is projected to be 7% lower than the pre-mine conditions.

To mitigate the potential effects of removing the contributing catchment area within the proposed mine site and groundwater seepage from Pike Lake into the open pit lake discharges, water will be transferred from Duley Lake to Pike Lake during both the Operations and Closure phases.

The model predicts that discharge rates for the low flow (P25) scenario would fall below the minimum threshold during the winter months in the early years of the Closure phase, coincident with pit filling. The flooding sequence that will be implemented for the Project will be finalized based on site conditions, and will be driven by minimizing environmental effects to surrounding waterbodies, including Pike Lake. Champion is committed to maintaining the minimum discharge threshold in Pike Lake to minimize effects to fish and fish habitat. There are stream reaches immediately downstream of the Project footprint (e.g., mine rock stockpile and TMF)

that will receive limited upstream flow input and will therefore have limited aquatic habitat available. These areas have been included in the estimation of total habitat loss and will require a *Fisheries Act* authorization and offsetting.

Overall, the magnitude of effluent release and seepage on stream and river flows is expected to be negligible. The effect will be long term, but reversible following the completion of pit flooding during the Closure phase.

Fish Health

Predicted concentrations for total cobalt at each of the five waterbody stations fall below the cobalt SSWQO, and therefore, residual effects of effluent discharge and seepage are anticipated to be negligible in magnitude. Following Operations, total cobalt concentrations are predicted to return to background levels within Duley Lake and Walsh River, but slightly above background concentrations in Pike Lake, resulting in short-term reversible and long-term irreversible effects.

Predicted concentrations for total selenium at Duley Lake fall below the selenium SSWQO. The P25 scenario just exceed the CCME guideline for selenium but are below the SSWQO developed for Duley Lake. A selenium SSWQO has yet to be developed for Pike Lake; however, total selenium is continually above the CCME guideline following the Closure phase. Therefore, without an SSWQO for selenium in Pike Lake, the residual effects of effluent discharge and seepage is conservatively predicted to be high in magnitude. Following Operations, total selenium concentrations are predicted to return to background levels within Duley Lake, remain at or below CCME guidelines and below the SSWQO in Walsh River but remain above CCME guidelines in Pike Lake, resulting in short-term reversible and long-term irreversible effects. Effects to the receiving environment are anticipated to be local.

Cumulative Effects

Alteration of fish habitat is the only expected effect from other RFDs within the RSA. However, it is considered negligible as all effects will be offset under section 35 of the *Fisheries Act* from the respective projects. The assessment conclusion is that potential cumulative effects with identified RFDs are unlikely to result in greater than negligible incremental contributions to the Project's residual effects to fish habitat and productivity or fish health.

5.5.3.1 Determination of Significance

The residual adverse effects on fish habitat / productivity measurable parameters are considered not significant in consideration of the geographic extent of the effects (local to regional), the mitigation measures identified to minimize effects, and the planned offsetting measures for the Project which are in accordance with sections 35(2) and 36 of the *Fisheries Act*.

The discharge rate at Pike Lake is expected to remain above the minimum discharge threshold, except during the early phases of the Closure phase. Champion will continue baseline data collection, update the water balance model and monitor the water levels in Pike Lake through the Construction and Operations phases to inform additional mitigation and adaptive management measures to mitigate any exceedances of the discharge threshold, so that this seasonal reduction is expected to be short-lived and reversible**.** In consideration of the mitigation and compensation measures proposed, the residual effects to fish habitat and productivity will be not significant.

Fish health is most likely affected by the changes in water chemistry that the effluent release and seepage will have on the receiving environment and fish populations. With the exception of Pike Lake for selenium, SSWQOs for cobalt and selenium were developed for waterbodies/watercourses where CCME guidelines are currently predicted to be exceed. Concentrations of total cobalt and selenium are predicted to be below the SSWQOs developed for these waterbodies.

The modelled selenium concentrations are currently expected to exceed CCME guidelines in Pike Lake. These elevated selenium concentrations are primarily a result of seepage from the overburden stockpile. The seasonality of the exceedances and the toxicological effect that this will have on fish health and fish populations are uncertain.

Champion has proposed to manage uncertainty through adaptive management. The objective of adaptive management is to identify risks and uncertainties that may result in adverse effects to the environment and develop a management plan that allows for continual improvement through review and analysis of uncertainties and risks for a project. The model results identify a risk posed by the Project seepage to water quality and in turn, fish health. This risk will be adaptively managed so that such significant effects to fish health and mortality are avoided. Examples of action plans Champion will assess include:

- Update geochemical source terms from the overburden stockpile and water quality predictions in Pike Lake with addition test results from the ongoing geochemical characterization and surface water monitoring programs during the Operations phase.
- Evaluate water management alternatives to reduce selenium loadings to Pike Lake during Operations and Closure phases and the Post-closure period, including water diversions from Mills Lake instead of Duley Lake.
- Determine a SSWQO for selenium in Pike Lake.

Following the adaptive management approach and implementation of additional measures, effects to fish health as a result of the Project are expected to be not significant.

5.5.3.1 Prediction Confidence and Uncertainty

Uncertainty begins with the SSA which was identified to address the possibility of minor design changes as Project design progresses. If design changes are necessary, it is unlikely that water features not included in the assessment will be affected. Baseline data collected, while robust, may not capture the full extent of what the surveys were intended to capture and may lead to uncertainty about species presence. Mitigation measures proposed are well studied and standardized, which provides a high level of confidence about their efficacy. An ongoing monitoring program will also be implemented to confirm the predictions of the assessment.

The assessment of fish habitat and productivity is based the understanding of effects from the Project and existing fish and fish habitat conditions likely to be affected by the Project. The effects from the Project are well-understood through the completion of baseline studies and assessment in the Alderon EIS and through this current assessment. Effects to fish habitat will be compensated in accordance with section 35 of the *Fisheries Act,* and the efficacy of offsetting plans of a similar nature are well understood. Overall, the confidence level of residual Project effects assessment to fish habitat and productivity was considered to be high.

Regarding fish health, the factor most likely to effect fish health are the elevated concentrations of cobalt and selenium, particularly in Pike Lake, where selenium concentrations are currently predicted to be irreversible and above the CCME guideline following Project closure, driven by seepage from the overburden stockpile. Compared to the Alderon EIS, Champion has increased confidence in the assessment and understanding of effects to fish health through completion of additional surface water modelling, which was identified as a condition of the release of the Alderon EIS.

However, selenium concentrations within Pike Lake pose a source of uncertainty, based on the conservatism that exists in the model and uncertainties surrounding the source terms developed for the overburden stockpile (TSD VI). Uncertainty also exists regarding how these elevated concentrations will affect fish and fish health. Selenium concentrations may be higher at the point of entry into the lake and dilute to a lower level as they spread across the lake, but the model conservatively applies a uniform level across the lake. Selenium uptake in fish is another area of uncertainty, as some fish may be more susceptible to higher selenium uptake through predation. Some species may prey on others that have a higher level of bioaccumulated selenium in their body than others. Additionally, fish may travel through areas of the lake that experience varying levels of selenium and may exit the lake entirely, altering their exposure to the increased selenium concentrations. Additional geochemical analysis, surface water quality modelling and monitoring in Pike Lake is needed to better understand the potential effects of selenium to fish health, and what adaptive management measures may be required to reduce Project effects. Based on the known uncertainties and conservative assumptions that have been applied to manage this uncertainty, the confidence in the assessment of this residual effect is moderate.

5.5.4 Monitoring, Follow-Up, and Adaptive Management

Following the approval and initiation of the Project, a monitoring program will begin to ensure the mine operation remains in compliance with the *Fisheries Act* and other relevant legislation. The program will include and environmental effects and compliance monitoring, and testing required under Section 36 of *Metal and Diamond Mining Effluent Regulations*, and fish offsetting monitoring. Habitat surveys under these requirements will continue throughout the Project's life span to demonstrate regulatory compliance and to evaluate project effects on fish and fish habitat. The proposed offsetting project will also be monitored to assess the effectiveness of the offsetting measures.

5.5.1 Comparison with Results of Alderon Environmental Impact Statement

The Alderon EIS completed had similar findings; however, a notable missing piece from the Alderon EIS was the water balance and water quality modelling, which depicts the predicted increase in metals that could affect fish health. The inclusion of the model is crucial for understanding the long-term effects that fish may experience as a result of Project activities, and that additional adaptive management measures will be required to mitigate effects to fish health. In absence of this modelling, the findings from the Alderon EIS in regard to water quality and hydrology and their effects to fish habitat and fish health are not comparable to the outcomes of the updated assessment for potential residual effects to fish and fish habitat.

5.6 Vegetation, Wetlands, and Protected Areas

Chapter 10, Vegetation, Wetlands, and Protected Areas, of the EIS provides a comprehensive assessment of potential effects of the Project on Vegetation, Wetlands, and Protected Areas.

5.6.1 Assessment Scoping

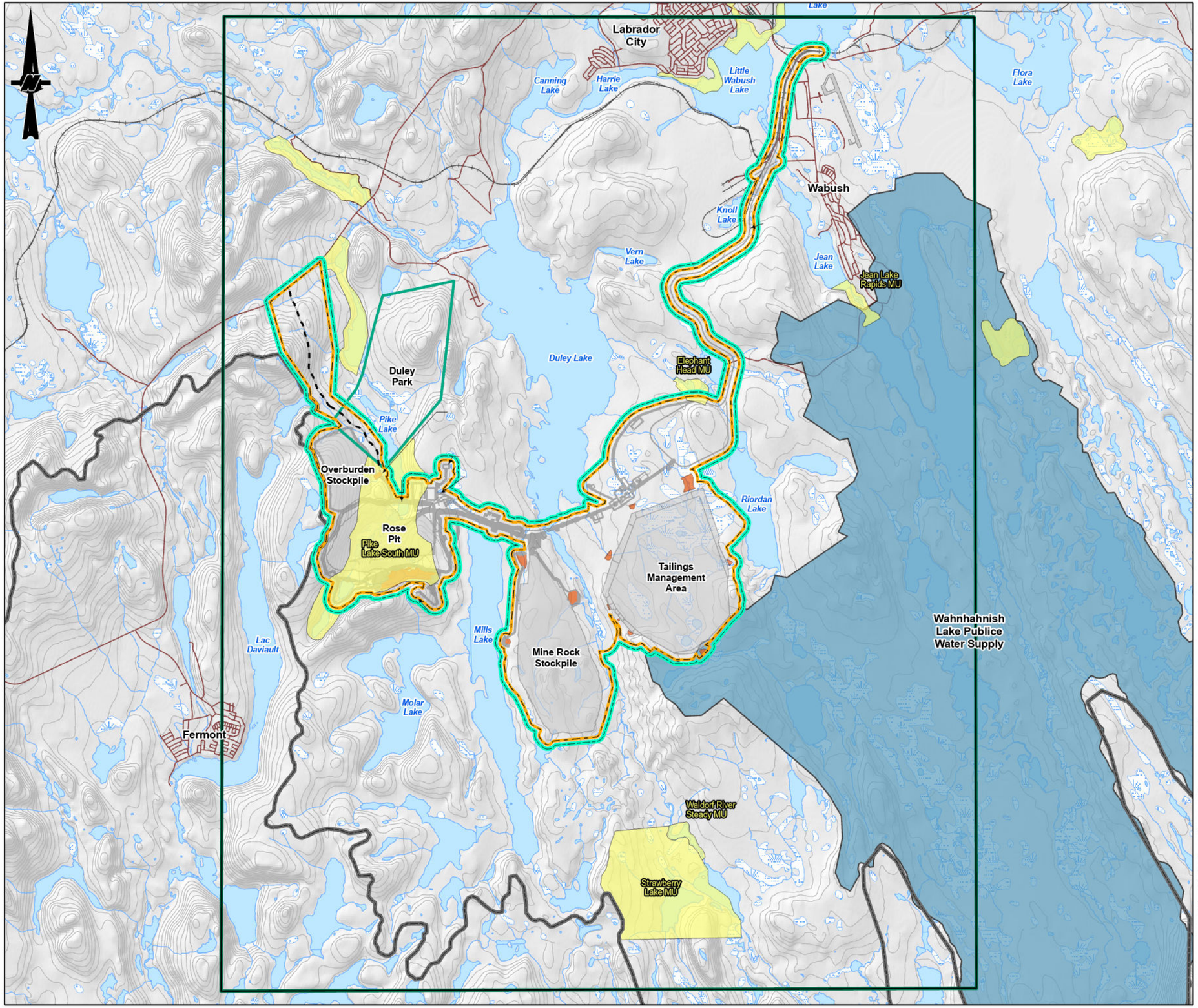
Vegetation, wetlands, and protected areas were selected as VECs because of their important ecological (i.e., habitat) and hydrological (i.e., erosion and flood control) functions that are essential to maintaining the health of natural ecosystems, as well as cultural benefits (i.e., recreational values).

The assessment of vegetation focuses on plant species and community diversity, including the presence of Species at Risk (SAR) and Species of Conservation Concern (SOCC). Wetlands are areas where water covers the soil or is present at or near the surface for varying periods of time, including during the growing season. Wetlands may support both aquatic and terrestrial species and are categorized into costal/tidal wetlands and inland/non-tidal wetlands. Protected areas are ecologically significant areas in Labrador designated to conserve natural environments and wildlife, these include provincial parks, wilderness reserves, and stewardship management units (MUs).

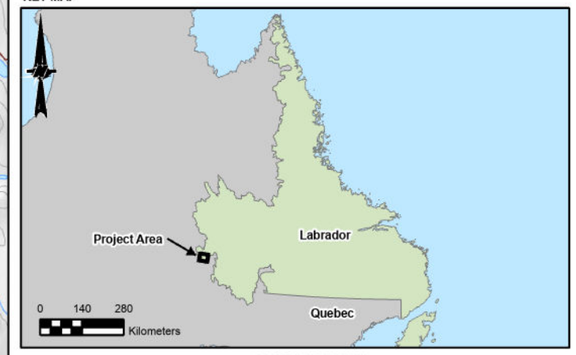
Six measurable parameters were identified and used for the vegetation, wetlands, and protected areas VECs.

- vegetation–area of vegetation communities by type, species richness at the community level and vegetation percentage cover at the community level
- wetlands–alteration or loss of wetland function (functions of affected wetlands, both direct and indirect, using Wetland Ecosystem Services Protocol for Atlantic Canada) and wetland area by wetland type
- protected areas–area of conservation land in the region

The assessment boundaries (Figure ES-12) define the extents for evaluating vegetation, wetlands, and protected areas. These assessment boundaries include the SSA (4,323 ha) as well as the LSA (5,105 ha) which includes the SSA plus an additional 100 m buffer and represents the area for assessing direct and indirect effects on vegetation, wetlands, and protected areas. The RSA (39,914 ha) extends farther to capture regional variability in vegetation habitats and wetlands, providing context for the assessment. The temporal scope for this assessment covers a 40-year period from initial Construction to Closure (10 years).



KEY MAP



SCALE 1:20,000,000

Legend

PROJECT DATA

- Proposed Project Infrastructure
- Proposed Sediment Pond
- Site Study Area
- Local Study Area
- Regional Study Area
- Conservation Area Management Unit
- Potential Access Road

BASEMAP INFORMATION

- Road
- Railway
- Watercourse
- Contour
- Duley Lake Park
- Bog/Wetland
- Waterbody
- Labrador/Quebec Boundary
- Public Water Supply

0 1,000 2,000 4,000

1:90,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

VEGETATION, WETLANDS AND PROTECTED AREAS ASSESSMENT BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	---
PREPARED	GM
REVIEWED	GB
APPROVED	JMC

PROJECT NO.	CONTROL	REV.	FIGURE
CA0038713.5261	0001	0	ES-12

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5.6.2 Existing Environment

Baseline studies were initially completed by Alderon in 2011-2012. In 2023, Champion conducted updated surveys to provide a current characterization of vegetation, wetlands, and protected areas within the SSA, LSA, and RSA. These studies documented habitats and encounters of SAR and SOCC. A supplemental addendum to the Vegetation and Wetland baseline report in 2025 further assessed SAR and SOCC occurrences and provided an updated Ecological Land Classification (ELC).

Vegetation

The Alderon EIS identified distinct habitat types, including black spruce forests, shrub, and graminoid-dominated wetlands, hardwood and mixed wood stands, and alpine communities. Historical fires led to shrub dominated communities in previously forested areas. Surveys conducted in 2023 identified changes in vegetation communities. Notable changes include increases in areas of alpine health (690%), black spruce-Labrador tea-feathermoss (33.7%), and patterned shrub fen (361.3%), riparian marsh (fen) (400%), riparian thicket (1,166.7%), while areas of black spruce/tamarack-sphagnum woodland (-63.5%) and burn/regeneration (24.2%) decreased. Vegetation surveys conducted during preliminary baseline studies for the Kami Project by Alderon, Champion field surveys in 2023, and subsequent borehole drilling program permit surveys completed by Champion did not document any listed SAR in the area.

Wetlands

The 2012 wetland baseline study characterized 287 wetland polygons covering 1,673 ha within the Alderon LSA, identifying fen and marsh classes. The 2012 ELC analysis identified approximately 9,800 ha of wetland type polygons in the RSA. The updated baseline study provided an updated ELC mapping area with approximately 6,126 ha of wetlands in the RSA, with changes attributed to increased accuracy of ELC modelling. Seven selected wetland areas within the LSA were surveyed, revealing histosols, varied pH levels, and 85 identifiable plant species, including Green False Hellebore (*Veratrum viride var. viride*). The Wetland Ecosystem Services Protocol for Atlantic Canada functional assessment method was applied, providing a stronger baseline characterization for post-construction monitoring.

Protected Areas

The RSA overlaps with the municipal boundaries of Labrador City and Wabush. Labrador City has nine MUs aimed at maintaining and enhancing waterfowl and wildlife populations. Protected areas of interest to the Project include Elephant Head MU, Pike Lake South MU, Jean Lake Rapids MU, and Duley Lake Provincial Park. These areas are adjacent to or overlap the proposed project infrastructure.

5.6.3 Effects Assessment

5.6.3.1 Pathway Screening

As part of the effect pathway screening, proposed environmental design features and mitigation measures were considered to determine whether effects on the environment could be avoided or reduced to negligible levels, thereby removing the pathway. Potential adverse effects were identified, and practical mitigation measures were applied to avoid, minimize, and/or rehabilitate effects. Avoidance and minimization were prioritized for vegetation, wetlands, and protected areas. The effectiveness of mitigation measures was assessed to determine if they would eliminate the effect pathway, result in negligible adverse effects, or if residual adverse effects remained. After mitigation measures were considered, the pathways screening analysis determined that the Project could adversely affect vegetation, wetlands and protected areas through the following residual effect pathways:

- area loss to vegetation, wetlands and protected areas
- changes in surface water and groundwater affecting wetlands
- fugitive dust and metal pollution affected vegetation and wetlands

Therefore, these pathways were carried forward into the residual effects analysis.

5.6.3.2 Residual Project and Cumulative Effects Analysis

The residual effects analysis used a precautionary approach that conservatively represented the potential Project-related effects on Vegetation, Wetlands and Protected Areas. The SSA provides a conservative Project disturbance area that includes a 100 m buffer from the Project footprint to account for possible changes in the final design layout; therefore, the actual areas of effects are likely to be much smaller. The SSA (4,323 ha) is twice as large as the anticipated Kami Mining Project infrastructure (1,971 ha), compared with a larger area of 2,377 ha previously proposed for Project infrastructure in the previous EIS.

Area Loss

The potential area of direct effects associated with the Project is conservatively assumed to be 3,433 ha or approximately 10.2% of non-wetland habitat in the LSA. Effects within the SSA would generally be restricted to a temporary loss equal to less than 20% of the area for each ELC type within the RSA. Where effects are greater than 20%, specific ELC attributes suggest that remaining areas outside the affected area will support adequate ecological function in the RSA during temporary Project effects of Construction and Operations and are possible to rehabilitate at Closure.

Up to 879 ha of Wetland area may be at risk from project effects in the SSA through the development of the Kami mine site and the associated infrastructure. The likely area of direct infilling of wetland is approximately 443 ha (about 15% of wetland in the RSA). This would represent a net loss of wetland function. The Strawberry Lake MU Stewardship Agreement is considered to provide mitigation for the loss of wetland functions affected by the Project. The predicted area of permanently effected wetland has decreased compared to the Alderon assessment (572 ha) due to an approximately 40% reduction in the eastern access road effects through realignment and an overall refinement of the site infrastructure design with optimized storage areas.

The loss of Protected Areas in the RSA includes the majority of Pike Lake South MU (about 610 ha) and about 32 ha in Duley Lake Provincial Park. The Pike Lake South MU effects will be offset by the creation of the Strawberry Lake MU (612 ha) Stewardship Agreement (an increase of 2 ha). The losses in Duley Lake Park represent 4.2% of the total park area (763 ha) and 1.4% of all protected areas in the RSA (2,351 ha).

Changes in Surface Water and Groundwater

Changes in surface water and groundwater may affect wetland areas during the Project lifetime and Post-closure period. Mainly changes in surface and groundwater quantity could affect water table levels and hydroperiod in wetlands that could cause changes in wetland vegetation or at worst dry out parts of some wetlands. Approximately 148.38 ha of wetland area is located within the LSA which may be subject to indirect effects on surface water and groundwater, but those effects are likely to be temporary and reversable. Note that the actual effect area in the LSA will likely be a small fraction of all wetlands present, perhaps 5% to 10% (or less).

Fugitive Dust and Metal Pollution

During Operations, relatively high concentrations of total particulate matter (TPM; i.e., dust), greater than about 500 to 1,000 micrograms per cubic metre ($\mu g/m^3$) are predicted within about 100 to 300 m of the site boundary. The effect of higher TPM (dust) on local vegetation may be intensified locally, including mortality of sensitive plant species and changes in species diversity through replacement with tolerant plant species. These temporary effects are applicable to vegetation communities and wetlands within the LSA. Wetlands are at a higher risk due to sensitivity of low growing herbs and mosses to dust. Experience at other sites has shown effects limited to as little as 20 m from the site but could be farther. These effects will be temporary during the Project lifetime and are expected to be restored to natural conditions during Post-closure period. The temporary effects on wetland function that may result will be mitigated by the Strawberry Lake MU Stewardship Agreement.

Cumulative Effects

All the RFDs have physical footprints outside the RSA for vegetation, wetlands, and protected areas; therefore, direct effects such as area loss are not applicable. No potential interaction with surface water or groundwater within the RSA was identified. Similarly, no reasonably foreseeable effects from introduction of invasive species were identified for the RFDs within the RSA. Only dust from RFDs may migrate into the RSA airshed and become a potential source of cumulative effects; therefore, the remainder of the assessment focuses on dust.

The potential cumulative effects of dust (TPM and PM_{10}) were assessed as part of the air quality assessment (Section 5.1.3). The assessment conclusion is that potential cumulative effects with identified RFDs, specifically the Scully Lake Tailings Impoundment Project, are unlikely to result in greater than negligible contributions to the predictions of COCs from the Project. As the assessment of RFDs indicates that potential cumulative effects are negligible, there are no predicted residual cumulative effects.

In addition to human activities, climate change and related effects (e.g., extreme weather, increased frequency and intensity of extreme weather events, wildfires) may contribute cumulatively to vegetation and wetland loss and alteration. Climate change was considered qualitatively in the assessment of cumulative effects to vegetation, wetlands and protected areas. Because of the uncertainty in direction and magnitude, it was conservatively assumed that climate change would have an adverse cumulative effect on vegetation, wetlands and protected areas.

5.6.3.3 Determination of Significance

The effect of Project-related area loss in vegetation communities and the associated plant SOCC, wetlands, and Protected Area in the RSA is considered not significant. The effect of temporary Project changes in surface water and groundwater on wetlands in the LSA is considered not significant. The effect of temporary high dust concentrations on vegetation communities and wetlands in the LSA is considered not significant.

5.6.3.4 Prediction Confidence and Uncertainty

Uncertainty begins with the SSA which was identified to address the possibility of minor design changes as Project design progresses; however, consideration of the SSA will result in a conservative effect assessment as direct disturbance related to the Project is expected to be less. Updated baseline mapping of vegetation communities and wetlands is considered representative of regional trends with acceptable accuracy.

Future conditions with respect to climate change and regional land use trends is relatively uncertain and has been treated as indicative only. The certainty of effectiveness of proposed mitigation for potential effects on wetlands in the LSA is high; however, EEMPs will be implemented to confirm assessment predictions. Hydrological and hydrogeological modelling is extremely complex and Operations/Post-closure period conditions may vary from predicted outcomes. Thus, monitoring of wetland hydrology in the LSA is recommended.

Uncertainties in baseline data, prediction models and effects assessment were considered in a manner that increased confidence on effects assessment. Overall, the confidence level of assessment was considered to be high for vegetation, wetlands and protected areas.

5.6.4 Monitoring, Follow-Up, and Adaptive Management

Wetland monitoring will be performed in accordance with the EEMP and will include operational and Post-closure period return visits to selected wetlands in the LSA, including a functional assessment using the Wetland Ecosystem Services Protocol for Atlantic Canada. The monitoring schedule may include operational and or Post-closure period site visits to selected wetlands in the LSA to document that Project mitigation measures are effective and confirm the actual total wetland effect area, for the purpose of establishing commitments to offset loss of wetland function. The results of the groundwater and surface water monitoring program will be analyzed in the context of potential effects on nearby wetlands in the LSA.

5.6.5 Comparison with Results of Alderon Environmental Impact Statement

Vegetation, wetlands and protected areas were also assessed in the Alderon EIS (Alderon 2012). The conclusion of significance of potential residual effects for the Champion EIS is similar to the predictions presented in the Alderon EIS for non-wetland vegetation communities. Effects to Vegetation SOCC were determined to be not significant which is similar to the conclusion of effect predictions in the Alderon EIS for SAR and SOCC. For wetlands, the area of directly affected wetland in the Project footprint (442.84 ha) has decreased compared to the Alderon assessment (572 ha) mostly due to an approximately 40% reduction in the eastern access road effects through realignment and an overall refinement of the site infrastructure design with optimized storage areas. The predicted area of effects on protected areas is similar to the Alderon EIS, although access road alignment changes avoided the previous encroachment in the Jean Lake Rapids MU but added footprint within the southwest edge of Duley Lake Provincial Park.

5.7 Wildlife

Chapter 11, Wildlife, of the EIS provides a comprehensive assessment of the potential effects of the Project on wildlife and wildlife habitat.

5.7.1 Assessment Scoping

For the potential effects of the Project on wildlife and wildlife habitat, key issues were assessed by selecting 15 representative VECs, completing an extensive literature review, and comparing the results of wildlife and wildlife habitat surveys conducted at the Kami Project with those previously completed. The selection of VECs was based on several factors, including value expressed by Indigenous groups and local residents, and direction in the EIS guidelines. The wildlife VECs include:

- caribou (migratory and boreal), migratory birds, plants, SAR/related habitats
- avifauna species (harlequin duck, common nighthawk, bank swallow, spruce grouse, short-eared owl, and peregrine falcon)
- bat species (hoary bat and northern myotis)
- large mammals (moose and black bear)

- furbearing mammals (beaver and American marten)
- amphibian species (wood frog and two-lined salamander)

Three measurable parameters were identified and used for the wildlife VECs:

- habitat availability (i.e., habitat quantity and quality)
- habitat distribution (i.e., habitat arrangement and connectivity)
- survival and reproduction

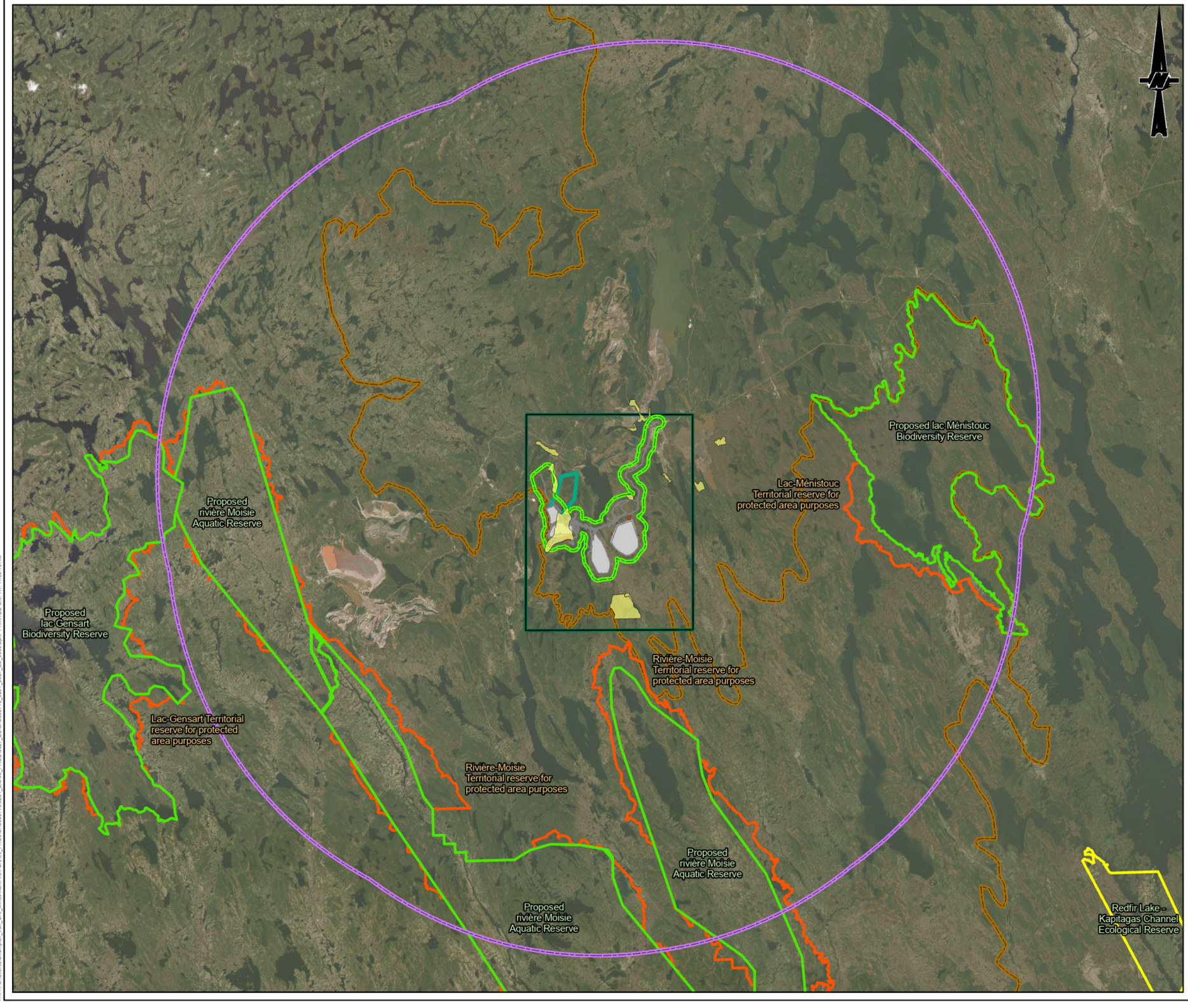
The assessment boundaries for the Project were delineated based on the scale at which specific effects from the Project are anticipated to be measured. Direct habitat loss and alteration (quality and distribution) are anticipated primarily within the SSA, where habitat will be physically displaced to accommodate Project components. The vegetation RSA is the area where the ecological land classification analysis was completed as part of the wetland and vegetation assessment, and where vegetation cover is available to quantify measurable changes in wildlife habitat availability from the Project. The wildlife RSA includes the wildlife LSA plus an additional 40 km buffer to include the home range size of larger mammal species in the region. The wildlife RSA provides broader context for the qualitative assessment of potential cumulative effects and the potential effects of accidental events from the Project on wildlife.

The spatial boundaries for the wildlife assessment include the Project footprint (1,972 ha without the 100 m buffer), the SSA, as well as an LSA and RSAs, which are provided in Table ES-13 and shown in Figure ES-13.

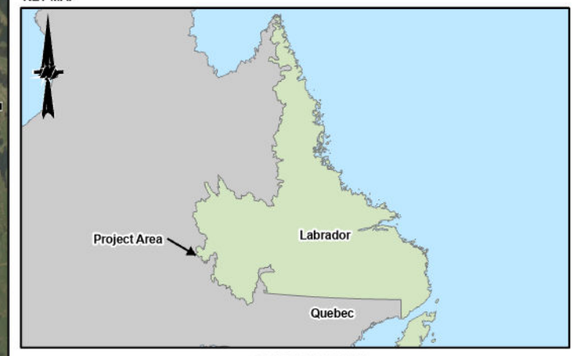
Table ES-13: Spatial Boundaries for Assessment of Wildlife Valued Environmental Components

Study Area	Area (ha)	Description/Rationale
LSA	8,071	— 500 m buffer around the SSA — Defined by the expected extent of the direct and small-scale potential indirect effects (i.e., ZOIs) from the Project on surrounding wildlife and wildlife habitat — Provides local context for assessing potential effects on wildlife VECs
RSA	701,154	— 40 km buffer around the SSA — Includes Wabush Lake watershed and Churchill River crossing the middle of the RSA — Provides broader scale context to capture and assess potential Project effects and is linked to aquatic-related pathways — Relevant scale for considering large predator-prey dynamics that may be influenced by the Project, based on average home range size of large mammals in the region — Appropriate scale for a cumulative effects assessment on wildlife VECs and the scale at which significance was determined (except for caribou and amphibians)
Vegetation RSA	39,913.54	— Scale at which quantitative assessment of changes in habitat could be made due to availability of fine-scale vegetation cover data. Scale for cumulative effects assessment on amphibian VECs

LSA = local study area; RSA = regional study area; VEC = valued environmental component; ZOI = zone of influence.



KEY MAP



SCALE 1:20,000,000

LEGEND

- LABRADOR/QUEBEC BOUNDARY
- PROPOSED PROJECT INFRASTRUCTURE
- PROPOSED SEDIMENT POND
- WILDLIFE LOCAL STUDY AREA (LSA)
- WILDLIFE REGIONAL STUDY AREA (RSA)
- VEGETATION REGIONAL STUDY AREA (RSA)
- DULEY LAKE PARK
- CONSERVATION AREA MANAGEMENT UNIT
- ECOLOGICAL RESERVE
- RESERVE FOR PROTECTIVE PURPOSES
- PROPOSED RESERVE

0 3.75 7.5 15

1:400,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - NEWFOUNDLAND AND LABRADOR
1. IMAGERY CREDITS: WORLD IMAGERY: EARTHSTAR GEOGRAPHICS
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

WILDLIFE ASSESSMENT BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	GM
REVIEWED	MB
APPROVED	KP

PROJECT NO.	CONTROL	REV.	FIGURE
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5.7.2 Existing Environment

In addition to a literature review and review of field surveys previously conducted in the Project area, several wildlife surveys were conducted in 2023 and 2024 within the LSA to inform the characterization of the existing environment. The literature review and results from surveys conducted as part of the previous and current EIS revealed 137 avifauna species with potential to occur within the SSA, LSA, and/or RSA. Of these, 10 are listed as Endangered, Threatened, or Vulnerable/Special Concern under *Species at Risk Act* and/or the NL *Endangered Species Act*. Other species listed under *Species at Risk Act* and/or the NL *Endangered Species Act* that have potential to occur in the wildlife RSA are bats (six species), caribou (boreal), and American marten. The current range of the George River eastern migratory caribou population does not overlap with the wildlife RSA. The potential effects onto wildlife from QNS&L rail operations (including potential changes to connectivity or increased mortality) in the Project's wildlife RSA in the existing environment have been considered and mitigated for in Rio Tinto IOC's Biodiversity Conservation Strategy. A letter from Rio Tinto IOC with a description of the Biodiversity Conservation Strategy is also included in Appendix 2B of Chapter 2 of the EIS.

Field surveys conducted to inform the EIS included early-season migratory bird surveys, point count surveys for migratory breeding songbirds, passive wildlife camera surveys, passive acoustic bat monitoring surveys, and bat roost habitat surveys. Migratory bird surveys were conducted from June 7 to 11 in 2023, and targeted aquatic habitat to detect waterfowl, shorebirds, birds of prey, and other species associated with aquatic habitat. Seven waterfowl species were observed, none of which are SAR or Species of Conservation Concern (SoCC). Early-morning point count surveys for breeding birds were conducted at 71 locations from June 11 to 18 in 2023. Survey locations targeted a range of available habitat types across the LSA. Findings were consistent with previous surveys and the species composition of western Labrador. In addition to avian surveys, four trail cameras were deployed from September 20, 2023, to November 6, 2024, which resulted in observations of a spruce grouse, a fox sparrow, three unidentified birds, a young bull moose, a moose calf, and a snowshoe hare.

Literature review identified the potential for all six species of bat listed as Endangered under the NL *Endangered Species Act* to occur in the Project study areas. Four bat acoustic remote units (ARUs) were deployed in the LSA in 2023 (June 16 to September 8) and 2024 (July 31 to November 5). Acoustic surveys confirmed the presence of species listed under *Species at Risk Act*, including little brown myotis and northern myotis, as well as species listed under the NL *Endangered Species Act*, including hoary bat, eastern red bat, and silver-haired bat (SoCC species). In 2024, searches were conducted for potential roosts in the Rose Pit mine area to determine if roost availability might explain the high acoustic bat activity recorded in that area in 2023. To provide comparison, a similar search was conducted in Duley Lake Provincial Park. Generally, roosting habitat availability appears to be low in the SSA and LSA, including in the Rose Pit mine area and Duley Lake Provincial Park. However, houses and worker accommodations near Duley Lake Provincial Park may provide alternative roosting habitat.

In addition to avifauna, bats, and caribou, other wildlife species such as moose, black bear, beaver, and American marten have been observed or are known to occur within the Project area. Amphibians, including wood frog and two-lined salamander, were also recorded as incidental observations during baseline surveys.

ELC habitat analysis within the vegetation RSA was used to quantify existing wildlife habitat availability, quality, and distribution. A total of 18 ELC types were identified, which were then defined as either high, moderate, low, or poor quality for each VEC wildlife species based on known habitat associations. Existing habitat availability and distribution for each VEC were examined using habitat suitability models. Relative abundance and distribution of high to moderately suitable habitat varied across species.

5.7.3 Effects Assessment

An analysis was conducted to evaluate the Project's components and activities and the associated effects pathways that could potentially effect wildlife and wildlife habitat. A total of 18 effects pathways were considered, drawing from other biophysical VECs that interact with wildlife, including air, noise and light, surface water, groundwater, and vegetation/wetlands.

5.7.3.1 Pathway Screening

As part of the effect pathway screening, proposed environmental design features and mitigation measures were considered to determine whether potential effects could be avoided or reduced to negligible levels, thereby removing the pathway. Project environmental design features, such as minimizing the Project footprint to the extent possible, design of the water management infrastructure, and relocation of the access road were designed to avoid or minimize the Project's potential effects on wildlife and wildlife habitat. Implementing an Environmental Protection Plan, including mitigation measures to avoid or reduce habitat loss and alteration is predicted to reduce potential adverse Project effects on wildlife and wildlife habitat.

The following effect pathways were predicted to have a than negligible were carried forward into the residual effects analysis:

- habitat loss (Construction, Operations and Maintenance): all VECs

- habitat alteration (Construction, Operations and Maintenance): all VECs
- sensory disturbance (Construction, Operations and Maintenance): all VECs
- injury and mortality from clearing (Construction): amphibians (two-lined salamander and wood frog)
- vehicle collisions (Construction, Operations and Maintenance, Closure): amphibians (two-lined salamander and wood frog)
- air emission effects via inhalation or ingestion (Construction, Operations and Maintenance, Closure): all VECs, except for harlequin duck and woodland caribou
- treated effluent discharge (Operations): amphibians (two-lined salamander and wood frog) and aerial insectivores (bank swallow, common nighthawk, hoary bat, northern myotis)

5.7.3.2 Residual Project and Cumulative Effect Analysis

A residual Project effects analysis was conducted to predict the Project's potential effects on wildlife and wildlife habitat. The residual effects analysis used a precautionary approach that conservatively assessed the potential Project effects on wildlife and wildlife habitat. The characterization of the existing environment described above will serve as the baseline against which potential effects of Project activities and construction will be compared and residual effects predicted.

The following is an overview of the residual effects analysis. Species-specific effects analyses were also conducted for each VEC.

Habitat Loss

Direct removal or alteration of soil, vegetation, wetlands, and fresh water can result in loss of wildlife habitat and affect wildlife abundance and distribution.

Habitat suitability modelling indicates that moderate amounts of suitable habitat will be reduced in the RSA with the addition of the Project, and there will remain relatively large areas of suitable habitat for most VECs in the region following Project Construction and Operations, with black bear, short-eared owl, and wood frog experiencing slightly greater habitat loss than other VECs. Across all VECs, the loss of suitable habitat in the SSA is 7.9% to 22.3% of total suitable habitat within the vegetation RSA. Loss of habitat from Project activities is expected to have low to moderate magnitude effects on wildlife VECs because sufficient suitable habitat exists outside the SSA. Effects are predicted to be reversible for reclaimed habitat and irreversible for habitat covered by permanent features and wetlands.

The amount of lost suitable habitat is likely overestimated because of the use of the conservatively large SSA (4,323 ha) to calculate affected area. This represents the maximum possible affected area of potential adverse residual effects and is a conservative approach to estimating habitat loss. Actual direct habitat loss from the Project footprint is estimated to be approximately 1,972 ha; therefore the values presented in the assessment are a conservative estimate as they are based on fully affecting the total surface area of the SSA, but not all these lands will be required for Project infrastructure. In contrast, the previous EIS proposed a Project footprint with a total area of 2,377 ha.

Habitat Alteration

Alteration of final terrain, soil, and water conditions, and/or plant species composition, could change the types of ecosystems that can be reclaimed on the landscape and adversely affect wildlife habitat availability and distribution, survival, and reproduction.

High and moderately suitable habitat in the SSA will be converted to low- and poor-quality habitat for all VECs, except common nighthawk, for which disturbed land from the Project will be converted to moderately suitable. Additionally, changes will occur to vegetation through dust accumulation, wetland quality through changes to groundwater, and water quality through altered site drainage and treated effluent discharge.

Overall, the anticipated alteration of suitable habitat within the LSA and vegetation RSA is unlikely to influence wildlife abundance, distribution, survival, and reproduction (probability of effect is not expected but is possible). Suitable habitat will remain abundant, well connected, and distributed across the RSA relative to the existing environment. Because habitat availability is not limiting in the wildlife RSA, most wildlife would be expected to shift or alter their home ranges to exclude areas of high disturbance or use these areas less frequently when human activity levels are higher. Effects to habitat alteration are predicted to have low to moderate magnitude effects on wildlife VECs and are predicted to be reversible for reclaimed habitat and irreversible for habitat covered by permanent features and wetlands.

Sensory Disturbance

Changes in noise, vibrations, and light are expected to interact with wildlife throughout the lifetime of the Project until after closure and reclamation. Sensory disturbance can cause wildlife to move away from these sources of disturbance, thereby affecting wildlife movement and distribution. This may force individuals to move into poor-quality habitat, affecting survival and reproductive success. Noise may interfere with communication and navigation, and light pollution may affect circadian rhythms. However, Project interactions are expected to be localized to the LSA and will cease after closure of the Project. Residual effects from sensory disturbance to wildlife VECs are predicted to be low magnitude and reversible.

Injury and Mortality from Clearing

Vegetation removal and soil alterations during site preparation and construction may result in injury or mortality to individual animals with low mobility (e.g., denning black bears or marten, herptiles) as well as destruction of nests, eggs, and individuals of migratory birds (i.e., incidental take). Any adverse interactions between the Project and black bear, marten, beavers, migratory birds, and bats are expected to be infrequent and have a minor influence on the regional population relative to existing conditions; as such, this pathway was predicted to result in negligible residual effects on those VECs and not carried forward in the assessment. Project-related changes to the survival and reproduction of amphibians are expected to be moderate due to their limited mobility and was carried forward for residual effects characterization.

Vehicle Collisions

Collisions with vehicles, equipment, buildings, and aircraft on site, and vehicles travelling to and from site, may cause injury or mortality to individual animals. Any adverse interactions between the Project and wildlife are expected to be infrequent and have a minor influence on the regional population relative to existing conditions. With the implementation of proposed mitigation measures, the potential effects of vehicle collisions on wildlife will be reduced and are predicted to result in negligible residual effects on VECs; therefore, this pathway was not carried forward to the residual effects characterization.

Air Emissions Effects via Inhalation or Ingestion

Fugitive dust emissions and associated constituents (e.g., metals, radionuclides) may cause changes in air, soil, and water quality, which can adversely affect wildlife health, survival, and reproduction through inhalation and ingestion of soil/water and food sources.

With the implementation of proposed mitigation measures, the potential effects of air emissions on wildlife will be reduced and negligible for all VECs, except amphibians, due to their low mobility. Residual effects from sensory disturbance to amphibians are predicted to be low magnitude and reversible.

Treated Effluent Discharge

Chemicals in effluent discharges released in waterbodies can affect larval stages of aquatic-borne insects that will be consumed by aerial insectivores, including bank swallows, common nighthawks, and bats, as well as amphibians. Changes in water quality may also affect amphibians directly through their skin. As such, aquatic habitat quality will be affected.

With implementation of proposed mitigation measures, the potential effects of effluent discharge on wildlife will be reduced and negligible for all VECs; therefore, this was not carried forward for residual effects characterization.

Cumulative Effects

The residual cumulative effects analysis identified six RFDs with the potential to have a cumulative effect with the Project. Habitat for wildlife is widespread within the RSA. Past and ongoing projects (commercial mining, forestry, highway improvements) have affected individual occurrences of wildlife, which are reflected in the existing conditions. It is unlikely that Project residual effects, in combination with effects from other projects and activities, would result in a reduction in wildlife habitat that would have a measurable effect on the persistence or viability of wildlife species. The assessment determined that potential cumulative effects with identified RFDs are unlikely to result in greater-than-negligible contributions to the Project's residual effects.

In addition to human activities, climate change and related effects (e.g., extreme weather, increased frequency and intensity of extreme weather events, wildfires, and insect infestations) may contribute cumulatively to further habitat loss and alteration, as well as adverse effects on survival and reproduction. Climate change may alter the processes that influence the availability of different quality wildlife habitats, and effects would likely occur beyond the wildlife RSA. Because of the uncertainty in direction and magnitude, it was conservatively assumed that climate change would have an adverse cumulative effect on wildlife habitat availability and distribution in the RFD case.

5.7.3.3 Determination of Significance

Effective implementation of mitigation measures and progressive reclamation and revegetation is expected to reduce the magnitude and duration of residual effects on wildlife species and their habitat. Additionally, habitat loss and alteration will be largely offset by a commitment to the Strawberry Lake Stewardship Agreement. Overall, it is determined that the overall effects on wildlife VECs would be **not significant**.

5.7.3.4 Prediction Confidence

Conservative boundaries, in addition to robust baseline collection and conservative modelling approaches, informed predictions of wildlife habitat loss and alteration to be made with a high level of confidence. A good understanding of species life histories and habitat associations also increased the level of confidence around predicted residual effects on wildlife survival and reproduction, and wildlife habitat. Consideration of species-specific best management practices and standard mitigation based on established design features with known effectiveness in similar contexts provides a high level of confidence in the proposed mitigation measures.

Mitigation measures proposed for each expected potential effect resulting from Project activities are well studied and standardized across similar activities, which provides a high level of confidence about their efficacy. The characterization of residual Project effects incorporates conservative assumptions to increase the confidence that the assessment will not underestimate the potential effects of the Project. For example, separate effects assessments were conducted for each of the 14 VECs to account for differences in species' responses to potential Project effects. For each VEC, 18 separate potential effect pathways were assessed to account for potential variation in nature, magnitude, and extent of Project activities at all stages throughout the Project lifespan. With respect to predicting cumulative effects, there is high confidence in the temporal and spatial boundaries and potential effects of RFDs, because they have been approved or released from EA and have a high likelihood of proceeding with accepted mitigation measures.

Conservative boundaries, together with robust baseline collection and conservative modelling approaches, enable the predictions of effects to wildlife VECs with a high level of confidence.

5.7.4 Monitoring, Follow-Up, and Adaptive Management

These are the monitoring and follow-up studies required to confirm residual effects predictions and address uncertainty:

- evaluate the effectiveness of reclamation and other mitigation actions, and modify or enhance as necessary through monitoring and developing updated mitigation measures (if needed)
- identify unanticipated negative effects, including possible accidents and malfunctions
- contribute to the overall continual improvement of the Project

Species-specific surveys during key seasonal windows will continue throughout the Project's lifespan in accordance with regulatory requirements to evaluate and implement adaptive management as needed to manage Project effects on wildlife and wildlife habitat. The Strawberry Lake Stewardship Agreement offsetting project will also be monitored to confirm that the offsetting measures are effective and achieving their objectives. A wildlife effects monitoring program will be developed to identify and implement adaptive management for any measured adverse incremental Project effects on wildlife and their habitats.

5.7.5 Comparison with Results of Alderon Environmental Impact Statement

Although specific VECs differed between the previous EIS and the current EIS, both considered species from the same guilds (i.e., SAR and migratory birds, large mammals, amphibians) and the conclusions are similar. Major exceptions include bats, which were not listed at the time of the previous EIS. The current EIS concludes the Project will have a negligible effect on bats and bat habitat. Woodland caribou also were not considered in the previous EIS, as they have not been reported in the area. However, consultation highlighted effects on caribou as a key issue. The current EIS concluded that Project activities will have a negligible effect on future caribou habitat, if caribou were to return to the area.

5.8 Heritage and Historical Resources

Chapter 12, Heritage and Historical Resources, of the EIS provides a comprehensive assessment of potential effects of the Project on archaeological resources, built heritage resources, and cultural heritage landscapes.

5.8.1 Assessment Scoping

Per the EIS Guidelines for the Project (Government of NL 2024), heritage and historical resources may include:

- historical and archaeological resources including sites of archaeological potential to Indigenous Peoples
- palaeontological resources
- architectural resources
- burial, cultural, spiritual, and heritage sites

Heritage and historical resources include sites and objects of historical, archaeological, cultural, spiritual, and paleontological importance. In NL, the protection of resources falls under the authority of the Provincial Archaeology Office of the Department of Tourism, Culture, Arts and Recreation. The *Historic Resources Act* (Government of NL 1990), administered by the Provincial Archaeology Office, prohibits a person from moving, destroying, damaging, defacing, altering, adding to, marking, interfering with, and removing from a provincial historical site or registered provincial cultural resource archaeological objects, buildings, monuments, things or other structures located on, in or under a provincial historical site or registered provincial cultural resource (Government of NL 1990). Section 13(1)(a) of the *Historic Resources Act* allows the Minister of Tourism, Culture, Arts and Recreation to order an impact assessment if it is their opinion that an operation that could adversely affect historical resources or palaeontological resources.

Two measurable parameters were identified for the assessment of change and prediction of overall effects on heritage and historical resources:

- alteration of heritage and historical resources
- loss, destruction or damage of heritage and historical resources

The spatial boundaries used for the assessment of heritage and historical resources consist of the SSA as Project interactions with heritage and historical resources are not anticipated to expand beyond the SSA. The SSA includes the proposed infrastructure for the Project (i.e., the Project footprint) with an additional buffer to reflect existing uncertainty in the final design of the Project and so that adverse effects on VECs are not underestimated. The LSA and RSA provide a broader context for the assessment of Project effects and provide an appropriate scale to assess cumulative effects from the Project combined with existing conditions and other RFDs. However, Project interactions with heritage and historical resources are not anticipated to expand beyond the SSA.

Regarding heritage and historical resources, effects on archaeological resources, built heritage resources, and cultural heritage landscapes are limited to the Construction phase of the Project since mitigation measures for these components of the VEC must be implemented in advance of land disturbance, alteration, or demolition. Accordingly, no temporal boundaries are required to address built heritage resources or cultural heritage landscapes.

5.8.2 Existing Environment

Two baseline studies were conducted to support the characterization of the heritage and historical resources existing environment. These studies were designed to gather information on the known and potential archaeological and historical sites, built heritage resources, and cultural heritage landscapes. The two studies include:

- Historic and Heritage Resources Baseline Report (EIS Annex 4A; Archaeological Resources)
- Cultural Heritage Screening Report (EIS Annex 4B; Built Heritage Resources and Cultural Heritage Landscapes)

A Historic and Heritage Resources Baseline Report (EIS Annex 4A) was completed to identify known or potential archaeological constraints to development. The undertaking was limited to a desktop study and thus, no Provincial Archaeology Office permit was required. Overall, the Historic and Heritage Resources Baseline Report determined that the SSA retains areas of high archaeological potential and further assessment is required. In addition, the report determined that an "Accidental Discovery of Artifact or Human Remains" protocol is required for the Project to address risk associated with encountering unknown archaeological resources or human remains.

A Cultural Heritage Screening Report (EIS Annex 4B) was completed to identify protected built heritage resources (architectural resources) and cultural heritage landscapes (cultural, spiritual, and heritage sites) in the SSA. The study completed through a combination of desktop data collection and information gathering conducted through correspondence with applicable regulatory agencies. The Cultural Heritage Screening Report determined that the SSA does not contain protected built heritage resources or cultural heritage landscapes.

5.8.3 Effects Assessment

An analysis was completed to evaluate Project components and activities and associated effects pathways that could potentially affect heritage and historical resources. Project activities during Construction, Operation and Maintenance, and Closure may result in disturbance, demolition, or alteration of an archaeological resource, built heritage resource, or cultural heritage landscape.

5.8.3.1 Pathway Screening

As part of the effect pathway screening, proposed environmental design features and mitigation measures were considered to determine whether effects on the environment could be avoided or reduced to negligible levels, thereby removing the pathway. Potential pathways that may affect heritage and historical resources include:

- a change in understanding of the presence of archaeological resources, built heritage resources, or cultural heritage landscapes
- direct or indirect land disturbances or removal of archaeological resources from original context
- capping or submergence of an archaeological resource
- direct impacts to built heritage resources or cultural heritage landscapes (destruction or alteration)
- indirect impacts to built heritage resources or cultural heritage landscapes (shadows, isolation, obstruction of a significant view, change in land use, or land disturbance)

Proposed mitigations such as additional archaeological assessment, implementation of a "Chance Find Procedure", and the development of an "Accidental Discovery of Artifact or Human Remains" protocol would reduce effects on heritage and historical resources.

After mitigation measures were considered, no negligible or residual effect pathways were identified related to heritage and historical resources.

5.8.3.2 Prediction Confidence and Uncertainty

The Historic and Heritage Resources Baseline Report (EIS Annex 4A) noted areas of high archaeological potential that were identified within the SSA during the previous assessment completed by Alderon (2012) but fell outside of planned Project effects (i.e., the Project Development Area) at that time. Based on a review of the most recent Project design plans, three proposed effect areas intersect with areas of high archaeological potential, specifically: the Waldorf River outflow crossing, mine rock stockpile, and West Basin. The review also identified several proposed effect areas that were not included in the previous assessment. Additional archaeological assessment for these areas of potential will be completed in advance of the Construction phase of the Project.

At present, no protected built heritage resources (architectural resources) or cultural heritage landscapes (cultural, spiritual, and heritage sites) were identified in the SSA. The Cultural Heritage Screening Report (EIS Annex 4B) included information gathering with the Heritage Foundation of Newfoundland and Labrador, Ministry of Tourism, Culture, Arts and Recreation Register of Provincial Historic Sites, and Office of Indigenous Affairs and Reconciliation, Government of NL to gather perspectives on the presence, or absence of heritage and historical resources in the SSA. None were identified. In addition, the report was circulated to Indigenous groups as part of the Project Registration and no concerns related to cultural, spiritual, and heritage sites in the SSA were raised.

5.8.4 Monitoring, Follow-Up, and Adaptive Management

The following monitoring programs, follow-up, and adaptive management actions are recommended for heritage and historical resources:

- Conduct additional archaeological assessment for areas of archaeological potential in advance of the Construction phase of the Project.
- Develop and implement an "Accidental Discovery of Artifact or Human Remains" protocol for the Project.
- Additional archaeological assessment and cultural heritage screening is required if the SSA is expanded beyond the areas assessed in the Historic and Heritage Resources Baseline Report (EIS Annex 4A) or Cultural Heritage Screening Report (EIS Annex 4B).

5.8.5 Comparison with Results of Alderon Environmental Impact Statement

The 2012 EIS prepared by Alderon concluded that no palaeontological or architectural resources are present in the Project development area and that these components of the heritage and historic resources VEC were not carried forward. Champion concurs with these findings.

The assessment completed in this EIS for the SSA concurs with the findings of the Alderon EIS and supports the conclusion that further archaeological assessments are required prior to construction to avoid effects to potential heritage and historical resources, but no further assessment of built heritage resources (architectural resources) or cultural heritage landscapes (cultural, spiritual, and heritage sites) is required.

5.9 Indigenous Land and Resource Use

Chapter 13, **Indigenous Land and Resource Use**, of the EIS provides a comprehensive assessment of potential effects of the Project on Indigenous Land and Resource Use. Indigenous Land and Resource Use refers to the practices, traditions and customs that distinguish the culture of an Indigenous group and were practised prior to European contact or, in the case of the Métis, between the post-contact and pre-sovereignty period.

The Indigenous groups considered for the purpose of this assessment are the following, as identified in the provincial EIS Guidelines:

- Innu Nation;
- Innu Takuaikan Uashat mak Mani-Utenam
- La Nation Innu Matimekush-Lac John
- Naskapi Nation of Kawawachikamach
- NunatuKavut Community Council

5.9.1 Assessment Scoping

Indigenous Land and Resource Use was identified as a VEC for the Project, because it may adversely affect land and resources currently used for traditional purposes. Furthermore, the provincial EIS Guidelines require consideration of the impact on Indigenous Land and Resource Use. Feedback gathered through engagement with Indigenous groups also led to this designation.

The measurable parameters selected for the Indigenous Land and Resource Use assessment are the following:

- The area accessible and available for Traditional Land and Resource Use.
- The quality of the experience in the area used for Traditional Land and Resource Use due to sensory disturbances and changes in viewscapes.
- The quantity and quality of harvested wildlife, fish and plants as a result of Project effects on the biophysical environment.

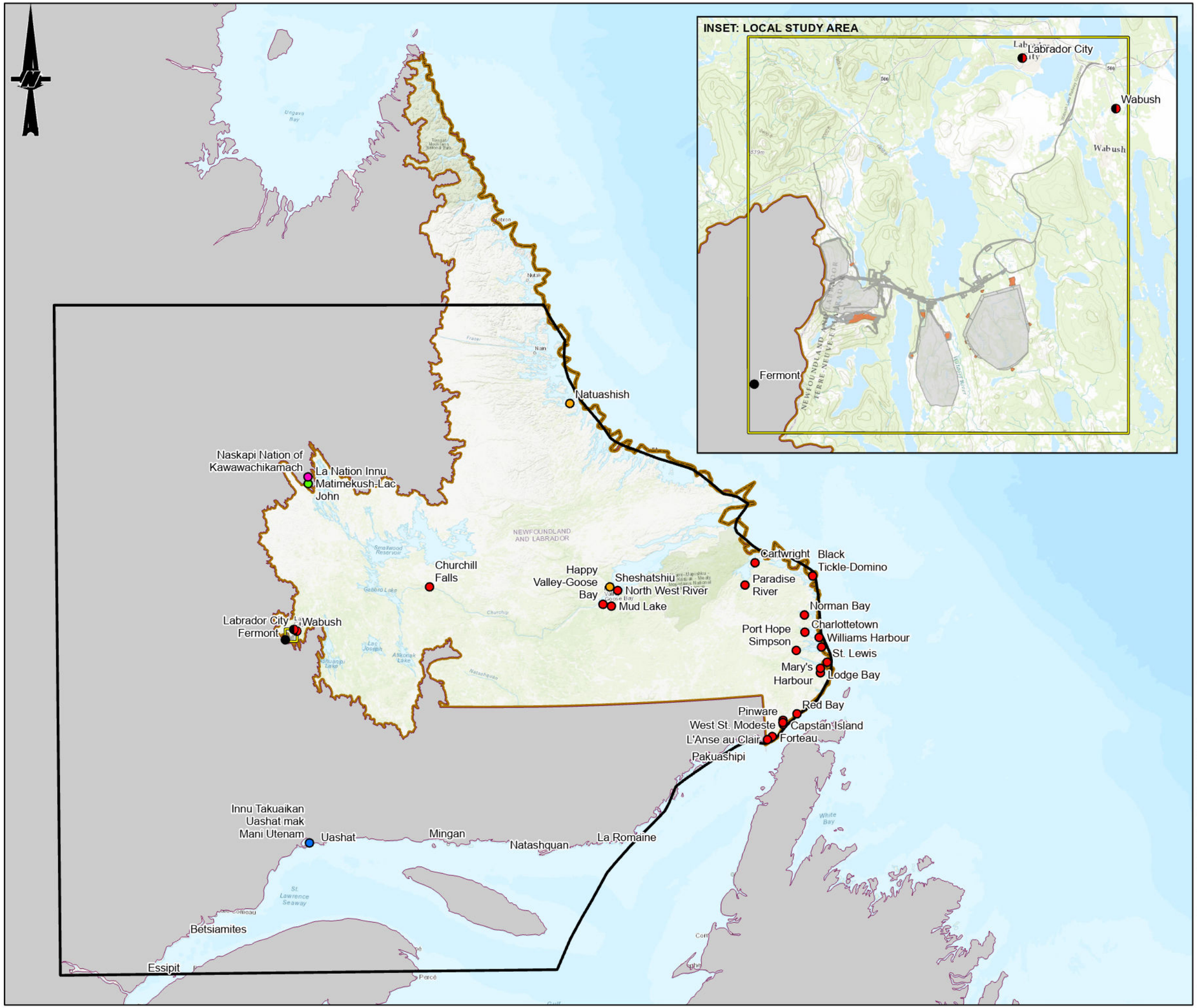
The spatial boundaries for Indigenous Land and Resource Use include the SSA, the LSA, and the RSA (Table ES-14 and Figure ES-14). The SSA includes the proposed infrastructure for the Project (i.e., the Project footprint) with an additional buffer to reflect existing uncertainty in the final Project design. The LSA is defined as encompassing all Project components and activities and all potential "zones of influence" of Project-related environmental effects that may reasonably be expected to occur and that may affect Indigenous Land and Resource Use. It measures 40 by 40 km. The RSA, which covers 85 million ha, is generally defined as the overall geographic extent of land and resource use by the identified Indigenous groups and has been established to assist in assessing how the Project may affect the overall nature, intensity or value of land and resource use by the groups considered.

The overall temporal scope of the assessment is bound by the 40-year period from construction to closure, within which construction will last four years, operations 26 years and closure 10 years.

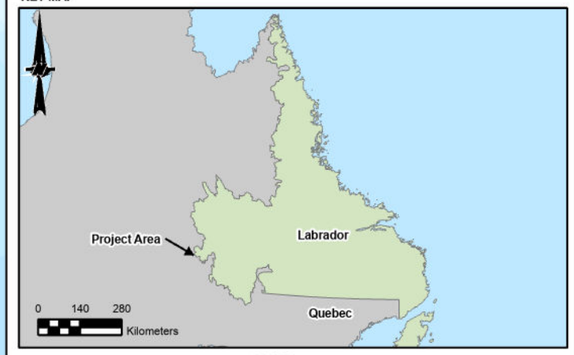
Table ES-14: Spatial Boundaries for Assessment of Indigenous Land and Resource Use Valued Environmental Component

Study Area	Area (ha)	Description/Rationale
LSA	160,000	The LSA encompasses all Project components/activities and potential zones of influence of Project-related environmental effects that may reasonably be expected to occur.
RSA	85,233,666	The RSA is the geographic extent of land and resource use by the Indigenous groups to assist in assessing how the Project may affect their overall land and resource use.

LSA = local study area; RSA = regional study area.



KEY MAP



SCALE 1:20,000,000

Legend

- Labrador/Quebec Boundary
- Local Study Area
- Regional Study Area
- Proposed Project Infrastructure
- Proposed Sediment Pond
- Community in the Local Study Area
- Community in the Local Study Area / Community Identified by NunatuKavut Community Council
- Innu Nation
- Innu Takuaikan Uashat mak Mani-Utenam
- La Nation Innu Matimekush-Lac John
- Naskapi Nation of Kawawachikamach
- Community Identified by NunatuKavut Community Council

0 40,000 80,000 160,000
1:5,500,000 METRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - NEWFOUNDLAND AND LABRADOR
2. COORDINATE SYSTEM: NAD83(CSRS)V3 UTM ZONE 20N

CLIENT
CHAMPION IRON MINES LTD.

PROJECT
KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE
INDIGENOUS LAND AND RESOURCE USE SPATIAL BOUNDARIES

CONSULTANT

YYYY-MM-DD	2025-07-10
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PREPARED	GM/MS
REVIEWED	BM
APPROVED	NG

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5.9.2 Existing Environment

The existing environment for Indigenous Land and Resource Use generally forms the basis against which residual effects are assessed. Current Indigenous Land and Resource Use also represents the outcome of historical and current environmental and socioeconomic changes that have shaped traditional practices over time.

Characterization of Indigenous Land and Resource Use in the LSA was based on a range of information sources, including publicly available land claims documentation, land use studies, archaeological reports, academic literature, government documents and studies conducted for other resource development projects in the area. Additionally, the outcomes of consultation and engagement with the identified Indigenous groups have been used in the assessment.

In engaging with the five identified Indigenous communities, Champion was advised by Indigenous communities that they disagree with NunatuKavut Community Council's assertion of Aboriginal Rights in the LSA. Champion has informed the NL Office of Indigenous Affairs and Reconciliation of the matter. During Champion's engagement process, Indigenous communities advised Champion that they could not share information on contemporary Traditional Land and Resource Use, because of ongoing land claims negotiations or disputes with the Crown on recognition of Aboriginal Rights. As a result, the only source of information on contemporary Traditional Land and Resource Use made available to Champion is the 2012 land use study prepared by NunatuKavut Community Council for the previous EIS. Champion invited all identified Indigenous groups to review the previous land and resource use information provided in the 2012 EIS and provide pertinent information for the current EA process. To date, none of the Indigenous groups have provided information in that regard. For Indigenous groups that opted out of engagement– either in the context of the prior or current EIS due to capacity constraints or other reasons – the assessment relies solely on literature reviews and publicly available data.

5.9.3 Effects Assessment

An analysis was completed to evaluate Project components and activities and associated effects pathways that could potentially affect Indigenous Land and Resource Use.

5.9.3.1 Pathway Screening

The effect pathway screening identifies potential effects pathways that are evaluated considering proposed mitigation to predict whether the effect pathway has the potential to cause residual adverse or positive effects. The effectiveness of mitigation measures proposed for each effect pathway is assessed to determine whether the mitigation would address the potential Project effect such that the effect pathway is eliminated or would result in a negligible adverse effect on the VEC.

Proposed mitigation measures include minimizing restrictions in the LSA where safety permits, continuing to share Project information and updates with the Indigenous groups, continuing to engage with the Indigenous groups on land and resource use, implementing (where agreed) processes for collection of information on land and resource use, Traditional Knowledge and issues scoping, minimizing effects related to air quality, noise, vibration, light, traffic, viewscapes, water, plants, fish, wildlife, natural habitats and heritage and historical resources, and implementing the various management plans.

Based on the available information, the effects of Project interactions with land and resource use by any of the identified Indigenous groups are predicted to result in negligible effect pathways.

5.9.3.2 Prediction Confidence and Uncertainty

There is a moderate level of confidence in the prediction based on limited access to Traditional Land and Resource Use studies for the identified Indigenous groups, existing knowledge and the results of current engagement with the Indigenous groups. The proposed mitigation measures have been shown to be effective for other projects.

5.9.4 Monitoring, Follow-Up, and Adaptive Management

Champion will implement the Kami Engagement Plan to follow up on specific Indigenous Land and Resource Use interests. Follow-up and monitoring programs for other VECs will be indirectly applicable to Indigenous Land and Resource Use.

5.9.5 Comparison with Results of Alderon Environmental Impact Statement

In sum, no residual effect pathways are anticipated for Indigenous Land and Resource Use. The previous EIS (Alderon 2012) had arrived at the same conclusion.

5.10 Other Land and Resource Use

Chapter 14, **Other Land and Resource Use**, of the EIS provides a comprehensive assessment of potential effects of the Project on land and resource use by non-Indigenous people (i.e., other land and resource use).

5.10.1 Assessment Scoping

Other land and resource use was selected as a VEC due to current and future use of lands and resources within and adjacent to areas planned for Project components and activities.

The SSA is expected to experience direct land use impacts, such as displacement and/or disruptions to land and resource use. The LSA may also experience extended effects. Meanwhile, the RSA includes key travel routes and rights-of-way used for access to these areas. The spatial boundaries for the other land and resource use are provided in Table ES-15 and Figure ES-15.

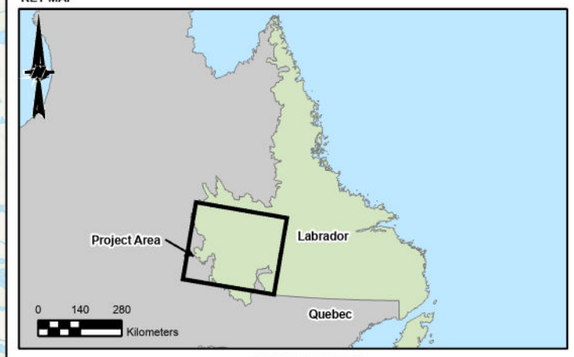
Concerns include potential conflicts with existing land users, particularly those involved in hunting, fishing, trapping and wood harvesting, which provide resources for food and heating and/or contribute to individual livelihoods. Additionally, cabin owners and industrial users (e.g., mining or mineral exploration) may be affected by altered access routes.

Table ES-15: Spatial Boundaries for Assessment of Other Land and Resource Use Valued Environmental Component

Study Area	Area (ha)	Description/Rationale
LSA	7,700	Includes the combined Planning Areas of Labrador City and Wabush. This study area has been changed from the previousEIS to encompass areas under jurisdiction of the Government of NL and the Towns of Labrador City and Wabush.
RSA	4,600,000	Includes a large area to provide regional context for land use patterns across western Labrador and in adjacent areas of eastern Québec. This is the same RSA as in the Alderon EIS.

EIS = Environmental Impact Statement; LSA = local study area; NL = Newfoundland and Labrador; RSA = regional study area.

KEY MAP



SCALE 1:20,000,000

Legend

- Labrador/Quebec Boundary
- Site Assessment Area
- Local Study Area (LSA)
- Regional Study Area (RSA)

0 12.5 25 50

1:1,000,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS: WORLD TOPOGRAPHIC MAP: SOURCES: ESRI, TOMTOM, GARMIN, FAO, NOAA, USGS, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
WORLD HILLSHADE: ESRI, CGIAR, USGS3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

OTHER LAND AND RESOURCE USE STUDY AREA BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	GM/MS
REVIEWED	NG
APPROVED	BM

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5.10.2 Existing Environment

A land and resource use baseline study (EIS Annex 4C) was prepared to describe existing conditions for other use of land and resources. It describes existing conditions for regulated land use, land tenure, industrial and commercial development, recreation and tourism, as well as harvesting. Indigenous Land and Resource Use is presented in Chapter 13.

Land Use Planning

The Kami General Partnership mining lease/surface lease is on lands zoned as Mineral Workings where mineral extraction is permitted. The Project intersects areas zone for other land uses, including an area designated for cabin development in Wabush. A former provincial park and buffer zones around current or former waste disposal sites are governed by the province of NL. The Project also intersects a portion of Wabush's public water supply (Wahnahnish Lake), which is has been designated as a protected public water supply area by the province of NL.

Land Tenure

In NL, Crown land is made available for personal, business, organizational or government use through the *Lands Act*. The SSA intersects parcels of tenured land. Tenure conveys surface rights only, while the NL and Canadian governments retain rights to natural resources on Crown lands and may lease subsurface or surface rights for mining, quarrying and forestry.

Industrial and Commercial Development

Industrial and commercial development in Labrador West mainly consists of mining. No quarries or commercial forestry were identified in the SSA. Much of the land is owned by mining companies, such as Labrador Iron Ore Royalty Corporation, Wabush Mines and Rio Tinto IOC. Historical land grants may include surface and mineral rights, enabling development of mines, communities and supporting infrastructure such as railways.

Recreation and Tourism

Labrador West residents participate in outdoor pursuits, such as snowmobiling, all-terrain vehicle riding, boating, Nordic skiing and snowshoeing. A groomed snowmobile trail network is available from west of Fermont to Churchill Falls. Off-trail snowmobile riding occurs around White Lake, Leg Lake, Dumbell Lake, Trout Lake, Smokey Mountain and other areas. Cabins and winter activities are key to recreation in Labrador West. The SSA intersects cabin areas, the provincial park reserve and the Labrador West snowmobile trail network, including a portion used for an annual Nordic skiing/snowshoeing event.

Harvesting

Residents of Labrador West participate in harvesting (i.e., hunting, trapping, fishing, wood-cutting and berry-picking) for sources of food and firewood. Interviews conducted during the Alderon EIS (2012) provided information on the specific locations of hunting, trapping and fishing in Labrador West and the larger region, and is used to describe these activities.

5.10.3 Effects Assessment

An analysis was completed to evaluate Project effects pathways that could potentially affect other use of land and resources. The evaluation also considered cumulative effects from RFDs that interacted spatially or temporally with residual effect pathways identified through the effects assessment for land and resource use.

5.10.3.1 Pathway Screening

Project environmental design features, such as initiation of progressive rehabilitation and limiting the Project footprint to the extent possible, are planned to minimize effects on land and resource use. Targeted engagement and adding a western access road to minimize interaction with residents would also reduce effects on other use of land and resources. Ongoing engagement with the Towns of Labrador City and Wabush and provincial regulators, as well as obtaining permits and meeting municipal and provincial requirements, will address concerns about Project-related effects on municipal land use and the Wahnahnish Lake public water supply area. After mitigation measures were considered, the pathways screening analysis determined that the Project could adversely affect other use of land and resources from the following residual effect pathways:

- Project presence and site activities may result in limited access to, and loss of, areas for recreation and tourism (Construction, Operations and Maintenance, and Closure phases)
- Project presence and site activities may result in limited access to, and loss of, areas for harvesting (Construction, Operations and Maintenance, and Closure phases)

5.10.3.2 Residual Project and Cumulative Effects Analysis

A residual Project effects analysis was conducted to determine the potential effects of the Project on other use of land and resources. The residual effects analysis considered two measurable parameters:

- changes to recreation and tourism (land users)
- changes to harvesting (hunting, trapping, fishing, domestic wood cutting and berry picking)

The residual effects analysis used a precautionary approach that conservatively represented potential Project-related effects on other use of land and resources. Factors used in the assessment included:

- Project-specific provincial EIS Guidelines
- regulatory requirements, standards and guidelines
- consideration of key issues raised through consultation with regulatory agencies, Indigenous groups and stakeholders
- potential interaction with the Project, including amount of spatial overlap of a VEC with the Project
- sensitivity of a VEC to potential Project effects and level of damage or harm should an adverse effect occur

Recreation and Tourism

Residual effects include limited access to, and loss of, areas (0.03% of the RSA) currently used for recreation and tourism, which will begin in construction and continue throughout operations and closure. Champion will engage with land users regarding recreation/tourism areas. Project information will be shared, along with updates on current and planned activities and discussions of issues, concerns and potential solutions, which is expected to result in adverse residual effects on recreation and tourism of low magnitude. Champion is engaging with stakeholders to discuss potential issues and solutions. Champion will continue to engage with cabin owners to discuss mitigations, including applicable compensation where appropriate.

Harvesting

Residual effects (i.e., limited access to, and loss of, areas currently used for harvesting) will begin in construction and continue throughout operations and closure. This will continue to directly affect harvesting in the SSA, including hunting, trapping, fishing, domestic wood cutting and berry-picking. Again, the SSA is only a small portion (0.03%) of the RSA.

Potential Project effects on harvesting include indirect effects from sensory disturbance (e.g., noise, light, vibration), which could possibly result in reduction of harvesting success. Hunters, trappers and anglers may experience adverse effects related to availability of targeted species in the LSA. However, alternative areas within the LSA and RSA are available outside areas affected by the Project. Overall, adverse residual effects on harvesters are anticipated to be low in magnitude.

Change in water quality associated with Project emissions, discharges and wastes may also result in adverse effects on fish and fish habitat and therefore lead to additional pressure on fish resources. However, residual effects on fish are predicted to be low in magnitude due to habitat compensation.

Loss of an area and/or restriction of access will continue throughout Closure, though this phase includes restoration of affected land used for harvesting. Residual effects on harvesting from closure activities are anticipated to be low in magnitude.

Cumulative Effects

Four projects (at the Bloom Lake mine and Rio Tinto IOC's Labrador City operations) are at existing mine sites with ongoing operations. The remaining two projects (Route 389 improvement program and Scully mine tailings impoundment area) include use of presently undeveloped land and thus potentially affect tourism, recreation and harvesting due to loss of access to land and/or disturbances. These two projects may contribute to cumulative effects along with the Kami Project in the RSA.

Cumulative effects on loss of land from the Kami Project and the Scully Mine Tailings Impoundment Area Expansion Project will affect approximately 0.13% of land in the RSA (0.03% for Kami and 0.10% for Scully). The Rio Tinto IOC projects and the Bloom Lake project are on existing mining properties. The area that will be lost for the Route 389 upgrades is unknown.

The cumulative effects of the Kami Project combined with the Scully Mine Tailings Impoundment Area Expansion Project will result in a decrease in some 5,781 ha (1,411 for Kami and 4,370 for Scully) considering the respective footprints of each project. These decreases in land available for other uses will be limited to about 0.13% of the land area in the RSA, and mostly reversible.

5.10.3.3 Determination of Significance

With the application of mitigation and management measures, residual effects on other land and resource use range from negligible to low in magnitude. The residual effects are limited to the SSA (direct loss of area) and LSA (sensory disturbances). Though use of land and resources is known to occur in the SSA and LSA, the RSA is large with plentiful resources to accommodate displaced users. With mitigation and environmental protection measures, the residual environmental effects on other land and resource use are predicted to be not significant.

Cumulative effects of the Project in combination with other past, present and planned projects and activities on other use of land and resources was also determined to be not significant.

5.10.3.4 Prediction Confidence and Uncertainty

There is a high level of confidence in the prediction based on access to comprehensive government published information regarding regulated land and resource use in NL, existing knowledge obtained from a long history of socioeconomic research in Labrador West, the results of current engagement with land and resource users in the region, and a land and resource study for the Kami Project 2012 EIS. The mitigation measures proposed for the Project (e.g., site design to avoid sensitive features to the extent possible), removal of cabins with compensation for cabin owners and those measures addressing effects on fish, birds and wildlife are shown to be effective mitigations for other projects.

5.10.4 Monitoring, Follow-Up, and Adaptive Management

A dedicated follow-up and monitoring plan is not proposed for other use of land and resources. Follow-up and monitoring programs for some VECs will be indirectly applicable to other use land and resources. In addition, Champion will continue to liaise with government departments and agencies, Indigenous groups, community groups and other stakeholders to provide Project-specific information periodically and to facilitate planning regarding other use of land and resources.

5.10.5 Fermont

Residents of Fermont generally undertake land and resource use activities near the community, but also in areas near or with visibility of Labrador West. Project features have been redesigned to reduce visibility from Fermont. Further, any design changes and mitigations to reduce effects on land and resource use in Labrador West will also reduce effects in Fermont.

5.10.6 Comparison with Results of Alderon Environmental Impact Statement

The Kami Project 2012 EIS had similar findings to this EIS, including no likely significant residual effects on land and resource use. Mitigations incorporated into Project design included progressive rehabilitation and working with recreational users to address Project effects.

5.11 Economy and Employment

Chapter 15, Economy and Employment, of the EIS provides a comprehensive assessment of potential effects of the (the Project on the economy and employment, using widely accepted scientific practices, including economic impact modellingmodelling, and engagement feedback.

5.11.1 Assessment Scoping

Economy and employment were designated as a VEC for the Project based on guidance from the provincial EIS Guidelines and applicable regulatory standards, as well as input from engagement with Indigenous groups and local stakeholders.

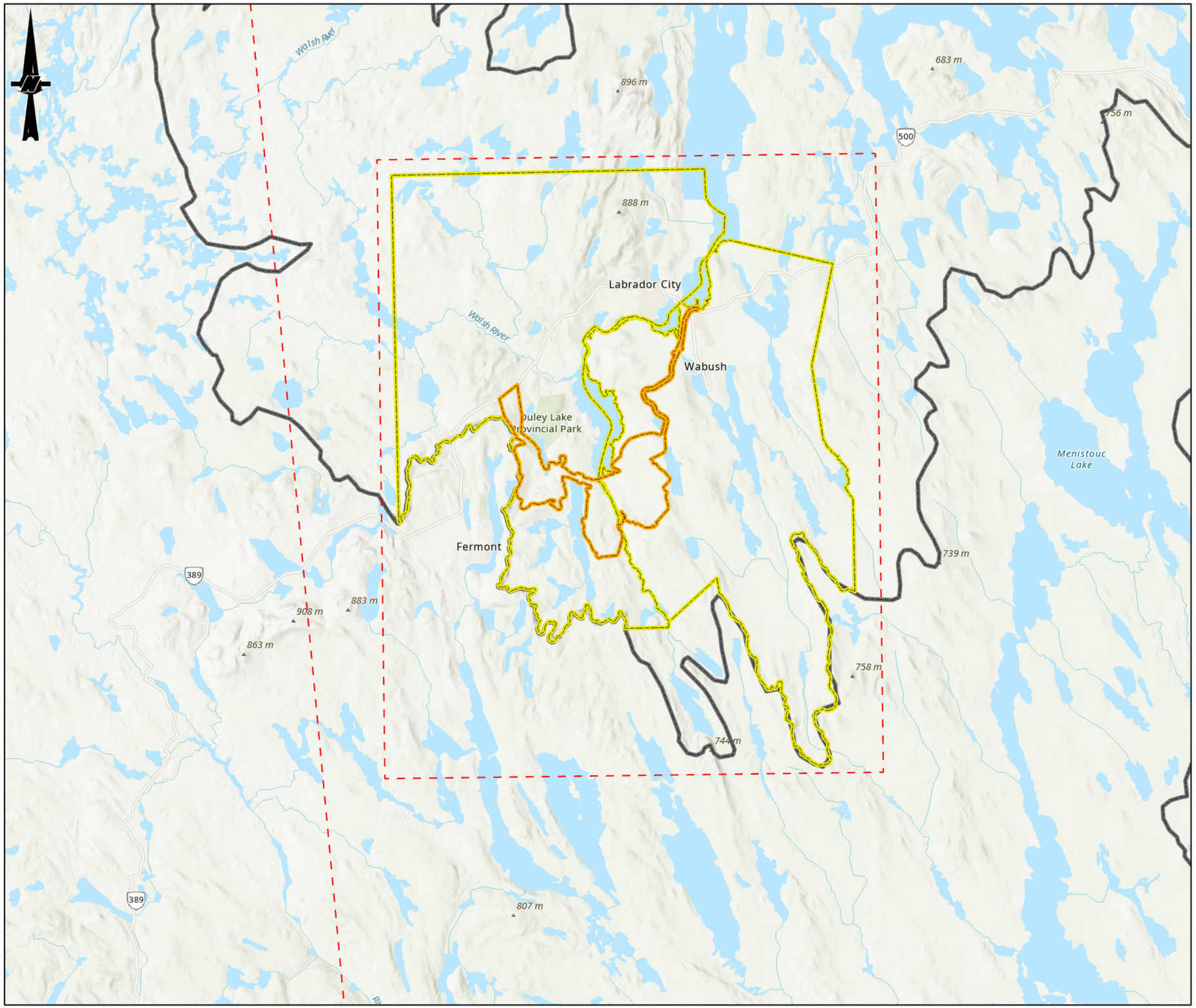
The LSA includes the communities of Labrador City and Wabush, which are expected to supply much of the labour, goods, and services for the Project. The RSA is the province of NL, representing the broader scale at which economic effects have been modelled. The overall temporal scope of the assessment is bound by the 40-year period from construction to closure, within which construction will last four years, operations 26 years and closure 10 years.

The spatial boundaries for the economy and employment VEC are provided in Table ES-16 and Figure ES-16.

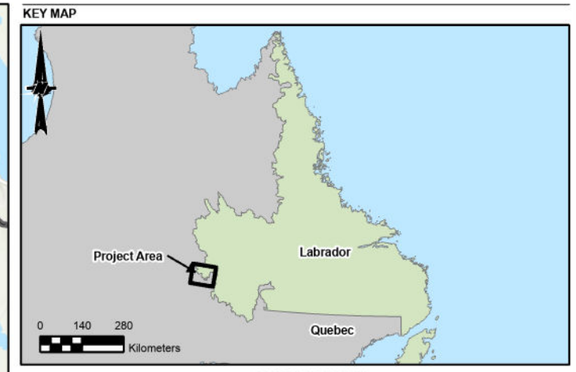
Table ES-16: Spatial Boundaries for Assessment of Economy and Employment Valued Environmental Component

Study Area	Area (ha)	Description/Rationale
LSA	4,323	Includes the communities of Labrador City and Wabush, which are the adjacent communities likely to be affected most directly by the Project
RSA	n/a	Includes the Province of NL, which is the region likely to be most affected by the Project

LSA = local study area; n/a = not applicable; NL = Newfoundland and Labrador; RSA = regional study area.



KEY MAP



SCALE 1:20,000,000

Legend

- Site Study Area (SSA)
- Labrador/Quebec Boundary
- Local Study Area (LSA)
- Regional Study Area (RSA)

0 2,500 5,000 10,000

1:250,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS: WORLD TOPOGRAPHIC MAP: SOURCES: ESRI, TOMTOM, GARMIN, FAO, NOAA, USGS, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY WORLD HILLSHADE: ESRI, NASA, NGA, USGS3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

ECONOMY AND EMPLOYMENT SPATIAL BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	GM/MS
REVIEWED	BM
APPROVED	NG

PROJECT NO.	CONTROL	REV.	FIGURE
CA0038713.5261	0001	0	ES-16

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5.11.2 Existing Environment

Existing economic and employment conditions were documented through a desktop review of available information sources, including websites of governments and industry, as well as data from Statistics Canada and the Government of NL. Information obtained from engagement with Indigenous groups and stakeholders, and data from the economic impacts analysis completed for the Project were added where relevant.

5.11.3 Effects Assessment

An analysis was completed to evaluate anticipated Project-related employment and procurement contracts and associated effects pathways that could potentially affect workers, businesses, under-represented groups and the economy.

The measurable parameters selected for the economy and employment assessment include:

- gross domestic product
- Project-generated employment
- Project-generated training
- Project-generated contracting
- Project-generated government revenue
- Project-generated opportunities for underrepresented groups

5.11.3.1 Pathway Screening

An effect pathway screening incorporating mitigation and enhancement measures was carried out. The screening led in all cases to positive effect pathways. Some adverse effects resulting from the Project's demands for workers, goods and services may arise, such as drawing workers and businesses from other economic sectors due to relatively high wages and employment benefits in the mining industry, thereby affecting the capacity of services and infrastructure dependent on those workers and businesses. Champion's participation in the Labrador West Alliance will help to mitigate those effects.

The pathways screening analysis determined that the Project could affect the economy and employment from the following residual effect pathways:

- gross domestic product, employment, training, contracting, and government revenues
- opportunities for underrepresented groups

Therefore, these pathways were carried forward into the residual effects analysis.

5.11.3.2 Residual Project Effects Analysis

A residual Project effects analysis was conducted to determine the potential effects of the Project on the economy and employment. It concluded that the Project would have a net positive effect on the economies of Labrador West, NL and other jurisdictions through employment and labour income, spending on local and regional businesses, and increased government revenues. It also concluded that under-represented groups would benefit from Project-related employment opportunities.

In accordance with the effects assessment methodology, no significance determination has been made for the positive residual Project effects identified for the economy and employment.

5.11.3.3 Prediction Confidence and Uncertainty

The level of confidence in the prediction of effects on the economy and employment is considered to be moderate to high, due to experience with other similar and recent Project developments, the individual nature of choices made by the local labour force and businesses in seeking employment, training and business opportunities associated with the Project, as well as the uncertainty in the timing of competing major projects.

5.11.4 Monitoring, Follow-Up, and Adaptive Management

Follow-up and monitoring will be implemented in accordance with the Gender Equity and Diversity Plan that apply to the Project (as signed between the Government of NL and the Kami Mine Limited Partnership in 2014), with periodic reports developed for each phase of the Project. Champion has also committed to update the Gender Equity, Diversity and Inclusion Plan and Workforce and Employment Plan.

5.11.5 Fermont

These benefits are also expected to extend to residents and businesses in Fermont, who are expected to gain employment and procurement contracts flowing from the Project.

5.11.6 Comparison with Results of Alderon Environmental Impact Statement

The Kami Project 2012 EIS had similar findings to the current EIS in that no residual adverse effects were predicted for the economy and employment; rather, significant positive effects were predicted for this VEC, with the Gender Equity and Diversity Plan acting as management measures.

5.12 Services and Infrastructure

Chapter 16, Services and Infrastructure, of the EIS provides a comprehensive assessment of potential effects of the Kami Project (the Project) on services and infrastructure.

5.12.1 Assessment Scoping

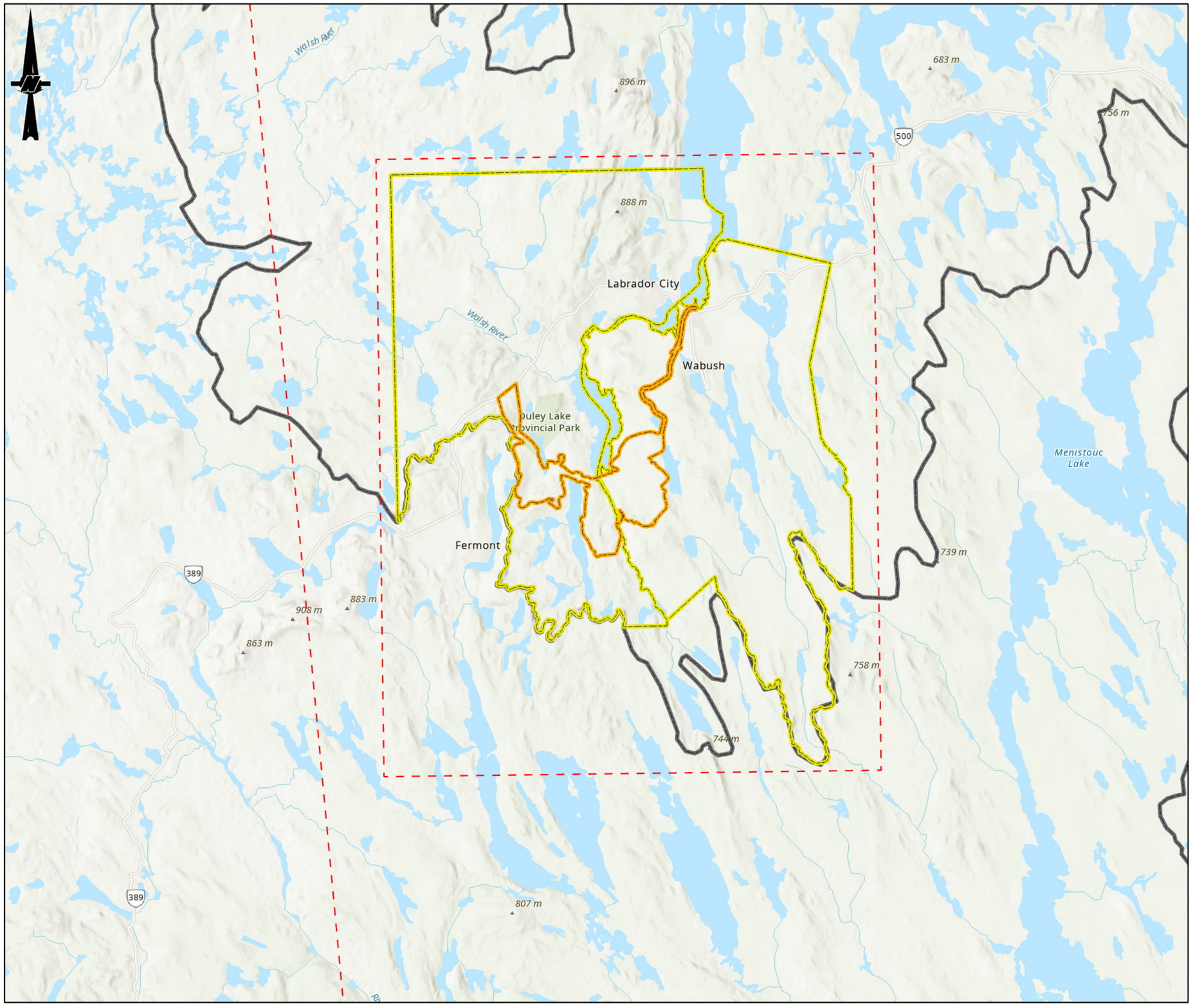
Services and infrastructure was selected as a VEC because there is potential for Project activities to interact with and influence services and infrastructure during construction, operations and closure, through potential increases in direct and indirect population and because of Project components and activities affecting the existing use of transportation infrastructure. Potential effects were measured using the capacity of housing and accommodation, and services and infrastructure related to child care, education and training, health care, community support, transportation, public works, utilities and communication, safety and emergency services, and recreation and culture.

The LSA includes the Towns of Labrador City and Wabush and represents the scale at which most or all effects on services and infrastructure caused by the Project are anticipated. The RSA includes western Labrador, which encompasses the Towns of Labrador City and Wabush, and the Town of Fermont, Québec (Table ES-17 and Figure ES-17).

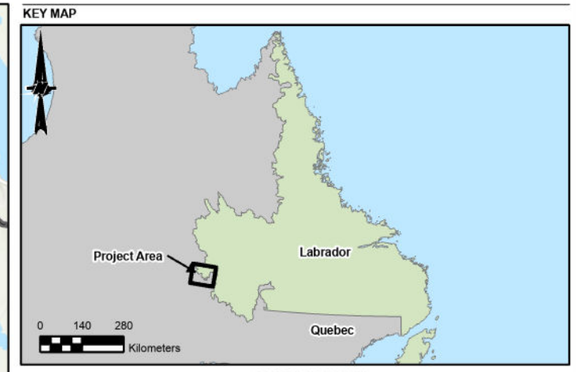
Table ES-17: Spatial Boundaries for Assessment of Services and Infrastructure Valued Environmental Component

Study Area	Area (ha)	Description/Rationale
LSA	7,700	Includes the Towns of Labrador and Wabush. These are the areas that will provide services and infrastructure to the Project and its employees, as well as where any Project-related demands will be experienced.
RSA	13,0155	Labrador West, including the Towns of Labrador City and Wabush, and the Town of Fermont, Québec. This provides broader context for the assessment of Project effects on services and infrastructure and an appropriate scale to assess cumulative effects from the Project combined with existing conditions and other RFDs.

LSA = local study area; RSA = regional study area; RFDs = reasonably foreseeable developments.



KEY MAP



SCALE 1:20,000,000

Legend

- Site Study Area (SSA)
- Labrador/Quebec Boundary
- Local Study Area (LSA)
- Regional Study Area (RSA)

0 2,500 5,000 10,000

1:250,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - NEWFOUNDLAND AND LABRADOR
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CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

SERVICES AND INFRASTRUCTURE STUDY AREA BOUNDARIES

CONSULTANT

Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	GM/MS
REVIEWED	BM
APPROVED	NG

PROJECT NO.	CONTROL	REV.	FIGURE
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5.12.2 Existing Environment

The existing environment for services and infrastructure generally formed the basis against which the residual Project and cumulative effects were assessed. Key findings for the existing environment are summarized below:

Housing and short-term accommodation is limited in Labrador West. Challenges with housing availability and affordability affect recruitment and retention in all sectors and increase the vulnerability of some parts of the population to experiencing housing insecurity and homelessness.

Child care, education and training, and health care services are available in the LSA, but are limited due to challenges with attraction and retention of staff, which ultimately affects the capacity of these services to meet the demand of the existing population.

Usage of community support services, such as local food banks, varies depending on economic conditions, with increased demand observed during economic slowdowns that result in higher unemployment, especially when housing costs are inflated.

Public infrastructure and utilities and communications have been prioritized to enable attraction of economic opportunities to the LSA; however, reliability and capacity of this infrastructure is an ongoing challenge in the LSA.

5.12.3 Effects Assessment

An analysis was completed to evaluate Project components and activities and associated effects pathways that could potentially affect services and infrastructure.

5.12.3.1 Pathway Screening

The effect pathway screening identified potential effects pathways that were evaluated, and considered proposed mitigation to predict whether Project activities have the potential to cause residual positive or negative effects.

Proposed mitigation measures include the preparation of a Workforce and Employment Plan that includes the commitment to house non-resident workers in a permanent camp located on site, engagement with local services providers, stakeholders and other operators in the area through the Labrador West Alliance, provision of basic services and infrastructure to non-resident workers and residential employees, implementation of management and mitigation measures identified for other VECs, and preparation of a Traffic Management Plan. Considering the implementation of these mitigation measures, it was determined that there would be a negligible effect pathway for community support, public works, utilities and communications, safety and emergency services, recreation and culture, and transportation infrastructure and services. A residual effect pathway was determined for housing and accommodation, as well as child care, education and training, and health care services and infrastructure.

After mitigation measures were considered, the pathways screening analysis determined that the Project could adversely affect services and infrastructure from population growth associated with direct and indirect change in demand for housing and accommodation, child care, education and training, and health care.

Therefore, these pathways were carried forward into the residual effects analysis.

5.12.3.2 Residual Project and Cumulative Effects Analysis

A residual Project effects analysis was conducted to determine the potential effects of the Project on services and infrastructure. The residual effects analysis considered the capacity of housing and accommodation, child care, education and training, and health care services and infrastructure in the LSA.

The residual effects analysis used a precautionary approach that conservatively represented the potential Project-related effects on services and infrastructure.

Housing and Accommodation

Population growth associated with the Project will increase demand on housing and accommodation in the LSA. The housing supply in the LSA is already constrained and there is limited capacity to absorb the increase in demand. Workforce requirements for the Project could therefore further decrease the availability and affordability of existing housing and make it more difficult for residents to rent or purchase houses in the LSA. Champion has committed to working with local municipalities and stakeholders through the Labrador West Alliance to support development of new residential lots to accommodate population growth, as part of its strategy to have a hybrid non-resident and resident workforce. However, there are constraints within the LSA, such as the high cost of construction, limited real estate developers to manage delivery and sale of additional residential housing, lack of available land to develop and lack of capacity of supporting infrastructure.

Child Care

Population growth associated with the Project could increase the demand on existing child care facilities in the LSA. Given the existing constraints in child care supply in the LSA, it is likely that families moving to the area would not be able to access child care services. Any additional demand for child care services could also result in reduced access to these services for local families. Champion will coordinate with child care service providers to notify them of the potential increase in demand, and although some child care services may be able to increase capacity over the long-term, challenges with attracting and retaining child care staff could prevent the sustainable expansion of services in the LSA.

Education and Training

Population growth associated with the Project will increase the demand for education and training facilities in the LSA. Schools in Labrador West have additional space, but experience challenges with attracting and retaining teaching and support staff. Staff shortages could be exacerbated by an increase in enrolments at the schools from population growth associated with the Project. Existing challenges with attracting and retaining teaching staff indicate that, even if Champion notifies the services providers and government agencies of the potential for population growth in advance, the schools may not be able to hire additional teachers to fill these roles.

Health Care

Population growth associated with the Project will also increase the demand for health care services in the LSA. The Labrador West Health Centre has 28 beds and already faces challenges with capacity and demand for the existing population, mainly due to staffing shortages. Therefore, any increase in demand for these services would be noticeable to residents, leading to increases in wait times for residents and placing additional pressure and stress on staff of existing facilities. This may result in some residents relocating from Wabush or Labrador City to live somewhere with better access to health services and without the additional challenge or travel time and expenses to access health care. Champion will coordinate with local health care providers and relevant government agencies through the Labrador West Alliance to notify them of the Project and the potential increases in population associated with the Project workforce. Health care services are likely to receive additional government funding to meet additional population demand.

A residual cumulative effects analysis was conducted to determine the potential effects of the Project and RFDs on services and infrastructure. No specific interactions with residual effects on services and infrastructure were identified from any of the RFDs.

The ongoing operation of a number of existing projects in the region contribute to challenges with services and infrastructure availability. Those projects are described as baseline information. Champion is committed to ongoing work with the Labrador West Alliance, a regional working group of mining companies, municipalities, provincial and federal government agencies and the Labrador West Chamber of Commerce, to monitor cumulative effects that may arise as a result of operations in the region in the future, and mitigate them where possible.

5.12.3.3 Determination of Significance

The change in demand on services and infrastructure was assessed based on the Project description and existing conditions of services and infrastructure in the LSA. The predicted demand for housing and accommodation, child care, education and training, and health care services was found to exceed the existing capacity of these services and infrastructure in the LSA on an ongoing and consistent basis. Therefore, a significant adverse effect on housing and accommodation, child care, education and training, and health care services is predicted. Effects are predicted to be greatest during the final years of construction and initial years of operation, when the demand on these services will be highest.

5.12.3.4 Prediction Confidence and Uncertainty

There is a high level of confidence in the prediction, based on the extent of the information regarding socioeconomic baseline conditions at the time of preparing this assessment. However, this confidence is contingent on the socioeconomic baseline conditions remaining consistent at the time of Project construction and operation. The magnitude of residual effects could change in light of socioeconomic variables (such as the operation or closure of other projects in the area, the construction of additional housing), that are outside of Champion's influence or control. Nonetheless, the mitigation measures proposed for the Project have shown to be effective in managing similar effects on other mining projects. Construction of another project in the region that enables infrastructure development, such as housing and additional services, could also benefit this Project and reduce the potential for negative adverse effects.

5.12.4 Monitoring, Follow-Up, and Adaptive Management

Monitoring and follow-up on residual effects to services and infrastructure will occur through the implementation of the Emergency Response Plan, Traffic Impact Study and Traffic Management Plan, Kami Engagement Plan, Workforce and Employment Plan, and the Gender Equity, Diversity and Inclusion Plan. Ongoing coordination with service providers, municipalities and other operators in the area will be critical to adaptive management and monitoring for the lifespan of the Project to adjust to evolving socioeconomic conditions.

5.12.5 Fermont

Fermont also faces challenges with meeting demand for particular services and infrastructure from the current resident and non-resident population, which limits the potential for Labrador West residents to travel to Fermont to access services. Therefore, it is not likely that the Project will result in additional demand for services and infrastructure in Fermont.

5.12.6 Comparison with Results of Alderon Environmental Impact Statement

Ongoing collaboration and coordination with local stakeholders, service providers, government and other operators, including participation in the Labrador West Alliance, is required to manage adverse negative effects and to adapt to changing socioeconomic conditions. The previous EIS did not find residual negative effects for services and infrastructure, which indicates the increasing awareness and demand that has been placed on these services in the time since this EIS was prepared.

5.13 Community Health and Wellbeing

Chapter 17, Community Health and Well-Being, of the EIS provides a comprehensive assessment of potential effects of the Kami Project (the Project) on community health and well-being.

5.13.1 Assessment Scoping

Community health and well-being was designated as a VEC for the Project based on several key considerations, including guidance from the provincial EIS Guidelines and applicable regulatory standards, as well as input from engagement with Indigenous groups and local stakeholders.

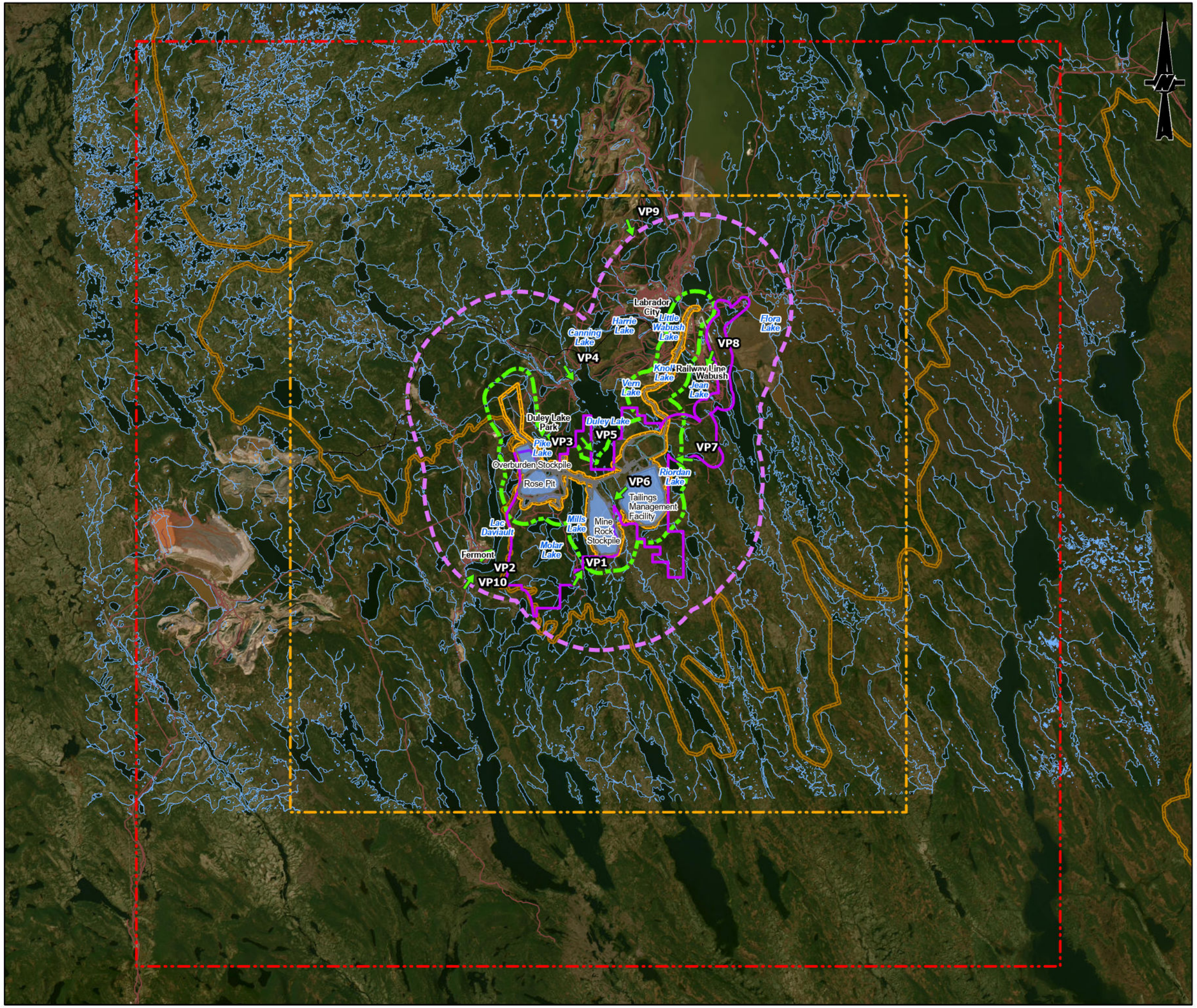
Several study areas were used for community health and well-being. The SSA includes the Project footprint and a 100-m buffer area around Project infrastructure. The LSA and RSA for community health and well-being were defined by the LSAs and RSAs for the Human Health Risk Assessment (HHRA) and the Visual Aesthetics Impact Assessment (VAIA). The HHRA study areas are based on the LSA and RSA for air quality, which is a 40 by 40 km boundary from the centre of the Project, including Labrador City, Wabush and Fermont. The VAIA LSA is 1 km around the SSA to encompass foreground viewing distances where Project components are more discernible and prominent to viewers. The RSA is 1 km to 5 km from the SSA, encompassing background viewing distances of 1 to 5 km from the SSA, where changes to the landscape may be visible but are less discernible and prominent than foreground viewing distances.

The spatial boundaries for the community health and well-being VEC are provided in Table ES-18 and Figure ES-18.

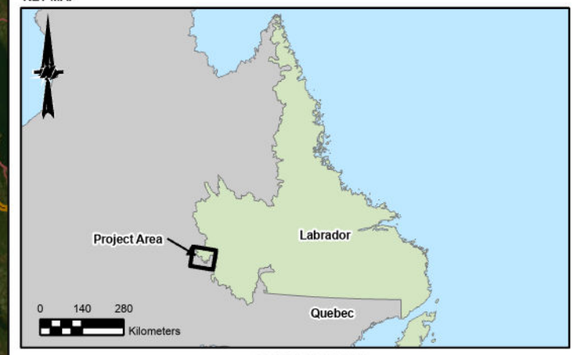
Table ES-18: Spatial Boundaries for Assessment of Community Health and Well-Being Valued Environmental Component

Study Area	Area (ha)	Description/Rationale
LSA	160,000 ha	Human Health: The LSA is a 40 km by 40 km boundary from the centre of the Project, capturing Labrador City, Wabush and Fermont.
	11,577 ha	Viewscapes: 1 km around the SSA encompassing foreground viewing distances where Project components are more discernible and prominent to viewers.
RSA	360,000 ha	Human Health: The RSA extends from the highlands along the Québec-Labrador border, northeastward through Wabush and Labrador City along a chain of lakes including Wabush Lake and the southwestern end of Shabogamo Lake.
	50,098 ha	Viewscapes: 1 km to 5 km from the SSA, encompassing background viewing distances where changes to the landscape may be visible but are less discernible than foreground viewing distances.

LSA = local study area; RSA = regional study area; SSA = site study area.



KEY MAP



SCALE 1:20,000,000

LEGEND

- Viewpoint Location and Direction
- Proposed Project Infrastructure (Linear)
- Potential Access Road
- Proposed Access Road and Railway Corridor
- Existing Railway
- Existing Road
- River/Stream
- Proposed Project Infrastructure
- Proposed Sedimentation Pond
- Site Study Area (SSA)
- Local Study Area (LSA) - Visual Effects Assessment
- Regional Study Area (RSA) - Visual Effects Assessment
- Local Study Area (LSA) - (HHRA)
- Regional Study Area (RSA) - (HHRA)
- 2011 Assessment Area
- Labrador/Quebec Boundary
- Project Footprint

0 2.25 4.5 9
1:250,000 KILOMETRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. IMAGERY CREDITS: WORLD IMAGERY: EARTHSTAR GEOGRAPHICS
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT
CHAMPION IRON MINES LTD.

PROJECT
KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE
COMMUNITY HEALTH AND WELL-BEING SPATIAL BOUNDARIES

CONSULTANT
Kami

YYYY-MM-DD	2025-07-10
DESIGNED	----
PREPARED	MS
REVIEWED	NG
APPROVED	BM

PROJECT NO.	CONTROL	REV.	FIGURE
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5.13.2 Existing Environment

Existing community health and well-being conditions were documented through the HHRA (e.g., existing quality of air, water, and country foods) and the VAIA (existing visual aesthetics) as well as a desktop review of available information from Statistics Canada, the Government of NL and other sources.

Between 2021 and 2022, Canada and NL experienced a notable decline in overall health and well-being, potentially linked to the COVID-19 pandemic. Before the pandemic, NL had among the best self-assessed mental health status in Canada. Between 2021 and 2022, NL registered a decline in mental health and an increase in risk behaviours along with higher reported stress and lower life satisfaction. Suicide rates in NL peaked during the pandemic years of 2021 and 2022, similar to national trends.

From a visual perspective, the LSA and RSA are dominated by boreal forest ecosystems with numerous lakes, ponds, wetlands and waterways, making them highly valued for recreation. The SSA is within a recreational area with amenities such as trails, cabins, a golf course, snowmobile routes and boat launches. Key water bodies like Duley Lake and Riordan Lake support cabin developments, a campground and various outdoor activities. Urban development is mainly concentrated in the townsites of Labrador City, Wabush, and Fermont.

5.13.3 Effects Assessment

An analysis was completed to evaluate Project components and activities and associated effects pathways that could potentially affect community health and well-being. Measurable parameters selected for community health and well-being assessment include:

- changes in human health
- change in viewscapes

5.13.3.1 Pathway Screening

The HHRA found that any health risks would be negligible, with exposure likely overestimated due to conservative assumptions. While some inhalation risks were identified, these were considered unlikely to cause harm given how rare exceedances will be and the cautious modelling approach. As a result, only negligible effects pathways for human health were identified in relation to environmental exposures of the Project for all Project phases, and were not carried forward to the residual effects analysis.

After mitigation measures were considered, the pathways screening analysis determined that the Project could adversely affect viewscapes in a manner that results in a residual effect pathway during the Operations phase. Project operations will result in long-term and continual changes to the landscape related to vegetation clearing and development of infrastructure, roads, the rail line and stockpiles (i.e., tailings, mine rock and overburden) in the SSA. Therefore, these potential effects were carried forward into the residual effects analysis.

5.13.3.2 Residual Project and Cumulative Effects Analysis

The residual effects analysis used a precautionary approach to conservatively represent potential Project-related changes in viewscapes. Potential effects were characterized by evaluating Project components from key viewpoints (VPs) to identify contrast between the baseline characterization without and with the Project.

The VAIA (TSD X) determined that the disturbance to the viewscape will be adverse but of moderate magnitude, meaning it will create a noticeable change but not be overwhelmingly disruptive. This assessment extends to potential effects on community health and well-being, as viewscape alterations are a form of visual pollution that may contribute to stress, anxiety and diminished quality of life. However, mitigation strategies–particularly reclamation of stockpiles with plantings and vegetation–will help counteract these effects over time.

The geographic extent of residual effects will be localized to viewing within a 5 km radius of the SSA. However, Project effects will be most discernible within a 1 km radius of the SSA. Residual effects will be experienced by a portion of the population, as the Project will not be visible from the townsites of Labrador City, Wabush and Fermont. However, the presence of visible mine features may cause alterations in how recreational users participate in activities in the SSA.

Visual effects will be most noticeable beginning in operations as stockpiles advance. The region has experienced mining and industrial activity for approximately 65 years, though existing mining projects are less visible in the SSA than in other areas of the region. Some effects will be reversible upon Closure, as mine infrastructure will be removed, and stockpiles will be revegetated and thus become less visible.

Cumulative effects were considered in the VAIA and three RFDs were identified as having potential for cumulative effects on viewscapes along with the Project:

- The Route 389 Improvement Project between Fire Lake and Fermont consists of three sections approximately 6 to 93 km away from the Kami Mining Project. Construction began in 2023 with completion expected by 2028. Due to the distance and terrain between the projects, and the nature of the Route 389 project, no cumulative effects on viewscapes are expected.
- The Rio Tinto - IOC Western Hillside Tailings Pipeline Project is 15 km from the Kami Mining Project. Although the two projects could be visible simultaneously from some locations, cumulative effects are predicted to be moderate due to the nature of the IOC project.
- The Tacora Resources Scully Mine Tailings Impoundment Area Expansion Project is 13.3 km from the Kami Mining Project. The two projects could be visible from some locations but, due to the nature of Tacora's project, cumulative effects are anticipated to be moderate.

Due to the visual disturbance from the projects and the likelihood of new infrastructure or disturbance from the projects being visible at the same time from any given location, no additional cumulative effects are anticipated, and the residual cumulative effects are predicted to similar to the Project-related residual effects (i.e., moderate magnitude).

5.13.3.3 Determination of Significance

The Project will result in adverse residual effects on viewscapes of moderate or strong magnitude depending on the location. Stockpiles will be permanently visible features on a continuous and long-term basis beyond the life of the Project. Adverse effects will be mitigated through progressive rehabilitation, eventual removal of mine infrastructure and revegetation of stockpiles. Champion will also continue its engagement program with communities in the LSA. With mitigation and management measures, residual environmental effects on community health and well-being are predicted to be not significant.

The cumulative effects of the Project in combination with other RFDs on community health and well-being was also determined to be not significant.

5.13.3.4 Prediction of Confidence and Uncertainty

The confidence in the HHRA is high, considering the mitigations described in Chapter 5 (Air Quality and Climate) and Chapter 8 (Surface Water) of the EIS and in the Project-specific EPP. These measures are based on accepted and proven best management practices that are well understood and have been applied to mining projects throughout North America. Uncertainty in the assessment was further reduced by making conservative assumptions as detailed in the HHRA. Given the conservative approach of the assessment, the results of the HHRA are likely to overestimate the effects of the Project on human health.

Similarly, there is a high degree of confidence in the effects predictions based on the viewshed analysis and photo-simulations prepared for the Project. The methods for establishing existing environmental conditions and changes to viewscapes followed established international best practices for visual impact assessment and adapted elements of the United States Department of the Interior Bureau of Land Management's Visual Resource Management system.

5.13.4 Monitoring, Follow-up, and Adaptive Management

No specific monitoring programs are recommended for viewscapes. The monitoring and adaptive management programs relevant to community health and well-being include those identified for air quality, water quality, and noise, vibration and light. Champion will continue to engage with resource users and communities to assess the success of mitigation measures related to community health and well-being as well as other VECs.

5.13.5 Comparison with Alderon Environmental Impact Statement

The previous EIS determined that the Project would have potential adverse effects on viewscapes during construction and operations as well as positive effects during decommissioning and reclamation, though the residual effects were predicted to be not significant. The residual effects were identified to be continuous, reversible, and within the LSA throughout all Project phases. In addition, the effects were indicated to be permanent during decommissioning and reclamation, and medium-term for the rest of the Project phases.

5.14 Accidents and Malfunctions

Chapter 18, Accidents and Malfunctions, of the EIS presents a comprehensive assessment of potential accidents and malfunctions associated with the Kami Mining Project. The purpose of the assessment is to identify unplanned events that may occur throughout the life of the Project and evaluate their potential likelihood and consequence(s) on the environment and public safety. The assessment follows the requirements outlined in Section 6.3 of the EIS Guidelines issued by the NL Department of Environment and Climate Change, and adopts a structured, risk-informed approach consistent with industry best practices.

5.14.1 Assessment Scoping

The scope of the assessment encompasses all phases of the Project, including Construction, Operations, and Closure, and the Post-closure period, and includes all major Project components such as the open pit, process plant, tailings and water management infrastructure, and site roads. Additionally, it is noted that the scope of the accidents and malfunctions assessment considers incidents initiated by the Project's structures, components, systems, and activities. For reference the following are noted:

- Forest fires are generally considered external natural events, with causes unrelated to mine operations and beyond the control of the mine operator – these events are addressed in **Chapter 19, Effects of the Environment on the Project**, of the EIS. A postulated forest fire initiated by mine-related activity was included in the hazard screening and was deemed to have a very low probability of occurrence. In any event, the Emergency Response Plan (EIS Annex 5C) includes procedures for responding to such events.
- A postulated train derailment and subsequent release of potentially hazardous materials was considered in the accident and malfunctions assessment. Consistent with the EIS guidelines the focus of the assessment of the scenario was along the Project's rail spur that connects the site and QNS&L railway, approximately 23.2 km from the Project. While the derailment represents a potential material concern from an operational point of view, the analysis presented herein concluded that it was a Low Risk scenario in consideration of the unlikely nature of the event and proposed mitigations and emergency response and planning.

5.14.2 Risk Assessment Methodology

The methodology involved a structured hazard identification and risk screening process. A total of 133 potential accident and malfunction scenarios were identified across 26 Project activities and components. Each scenario was assessed based on its likelihood and consequence, using standardized indices. Mitigation measures inherent in the Project design or committed to through operational controls were then applied to determine the residual risk. Scenarios that retained a moderate or high-risk rating after mitigation were reviewed further to determine their suitability as bounding scenarios, which are the events used to illustrate the range of potential environmental consequences under upset conditions. For each scenario, and particularly for the bounding scenarios selected for more detailed evaluation, specific mitigation measures were identified and considered in the risk rating to ensure that residual risks are managed to acceptable levels through appropriate engineering, operational, and emergency response controls.

5.14.3 Assessment of Accidents and Malfunctions

Out of the 133 identified scenarios, 63 were determined to be of Low overall risk and no further assessment was required. A total of 67 scenarios were assessed as having Moderate risk and this level of risk was considered acceptable in consideration of the as low as reasonably practicable principles. Based on the results of the hazard identification and risk screening processes three scenarios were ultimately selected for more detailed evaluation.

The first bounding scenario involves a rupture in the tailings pipeline from the concentrator to the TMF, resulting in a release of up to 330 cubic metres of tailings slurry. Such a spill could affect surface soil, nearby watercourses, and potentially shallow groundwater, especially in summer conditions. However, design features such as the use of high-density polyethylene pipe, secondary containment, pressure monitoring systems, and emergency response plans are in place to mitigate the extent of any release. The risk rating for this scenario is classified as Low, reflecting a "moderate" consequence and a "highly unlikely" likelihood.

The second scenario involves a liner breach at the TMF, resulting in the seepage of tailings porewater into the foundation soils or shallow aquifer. Although the tailings are non-acid generating and not expected to leach significant metal loads, sustained seepage could cause localized environmental effects. The tailings dam liner design for the Kami Mining Project includes a high-density polyethylene geomembrane installed on the upstream slope of the Stage 1 starter dam to control seepage. This liner is underlain by a protective non-woven geotextile and placed over a compacted sand bedding (Zone 1) and transition zone (Zone 2) to prevent punctures and ensure filter compatibility. Subsequent embankment stages do not include a liner, instead, seepage is controlled through the use of compacted coarse tailings, internal filter zones, and natural low-permeability foundation soils. The facility would be monitored through installed piezometers and seepage collection systems, and the design is consistent with the Canadian Dam Association's "Very High" consequence classification. Given these provisions, this scenario was assigned a Low overall risk rating, based on a "moderate" consequence and an "unlikely" likelihood.

The third bounding scenario addresses a transportation-related spill involving the release of fuel or chemical reagents along the site access road or rail spur. A Canada-wide vehicle accident rate was used, and when applied to the Project's estimated traffic volumes, resulted in an accident likelihood classified as "likely." However, only a small fraction of such collisions (estimated at 10%) would typically be of a magnitude to result in material release (spill). This reduces the likelihood of an actual spill to "highly unlikely." The potential consequences of such a spill include soil contamination, effects to surface water, and risks to individual wildlife, though

no permanent water supply or human receptors are located near the haul routes. Mitigation includes certified Transportation of Dangerous Goods-compliant carriers, designated haul routes, driver training, and spill response procedures. With these controls in place, this scenario is rated as Low risk.

Overall, based on the initial hazard scenario screening process and the more detailed consideration of three identified bounding scenarios, it is anticipated that potential risks associated with accidents and malfunctions could largely be addressed through engineering design, and compliance with industry best practices that reduce risks associated with hazard scenarios to a tolerable level.

5.15 Effects of the Environment on the Project

Chapter 19, Effects of the Environment, of the EIS presents an analysis of the environmental changes and natural hazards that could have an effect on the Project, as required by Section 6.5 of the EIS Guidelines (Government of NL 2024).

5.15.1 Assessment Approach

The assessment of the effects of the environment on the Project included an assessment of how natural hazards might affect Project infrastructure and activities during different phases of the Project. The general approach for the assessment of effects of the environment on the Project included:

- incorporation of Indigenous and Local Knowledge into the assessment
- identification of natural hazards in the Project region that could interact with the Project (referred to as "relevant hazards" in this report), including geohazards as well as climate hazards and projected climate change
- assessment of effects of the environment on the Project, including
  - description of existing environmental conditions
  - description of how the existing conditions may affect the Project
  - evaluation of the design and operational features that mitigate the effects of these hazards on the Project
  - identification of potential effects on the environment that may occur due to the hazard effects on the Project and the associated mitigation measures

An effect on the Project from natural hazard can result in a secondary effect on the surrounding environment (e.g., a spill caused by a climate event can in turn have detrimental effects on the surrounding hydrological environment). The identified potential effects on the Project from natural hazards were reviewed and assessed for potential secondary effects on the environment. Relevant technical studies were consulted to identify mitigation measures for these potential effects.

Common mitigation measures include climate-conscious design and standard procedures. For example, designing surface drainage to prevent flooding of stockpile areas mitigates effects of climate change through design controls, whereas monitoring access roads for signs of erosion and repairing them as necessary mitigates effects of climate change through regular monitoring. In addition, climate trends and projections have been incorporated into Project design considerations to ensure robust environmental planning and infrastructure resilience.

5.15.2 Climate and Climate Change Context

The local climate conditions and projected future conditions under a changing climate are characterized by a sub-arctic climate with long cold winters and short mild summers. Observations since the mid-19th century have shown variability and changes in the climate system, including rising atmospheric and oceanic temperatures, decreasing snow and ice quantities, increasing sea levels, and rising greenhouse gas concentrations. Canada has experienced warming at approximately twice the global average over the past century, with higher rates observed in northern regions (Lulham et al. 2023). Future climate projections indicate that temperatures will continue to rise throughout the current century (CRA 2015).

The evaluation of environmental effects on the Project includes consideration of climate change. Climate change has the potential to affect and change many of the geohazards that may affect the Project (for example, local hydrogeology). The effects on the Project from these potential changes are evaluated with each hazard to identify the Project's resilience to climate change.

5.15.3 Assessment of Effects of the Environment

The following regional natural hazards were identified as relevant to the Project area and that could have an effect on the Project.

- extreme temperatures
- major precipitation events
- severe storms and high winds
- droughts and wildfires
- severe snowstorms
- physiography
- geology
- groundwater
- hydrology
- permafrost
- seismicity and faulting

Based on the review of environmental conditions of relevant hazards, there is potential for effects to the Project from climate hazards including, extreme temperatures, major precipitation events, severe storms, high winds, drought, wildfire, snowstorms, as well as geohazards including geology, groundwater, and hydrology. It was identified that physiography, permafrost, and seismicity are not anticipated to have an effect on the Project.

There are no anticipated secondary effects associated with the effects of natural hazards on the Project, except for:

- Effects on the Project from groundwater (namely changes in groundwater due to climate change), can have reciprocal effects on the surrounding environment including a disruption to the local hydrology and groundwater from changes in dewatering requirements.
- Effects on the Project from hydrology (namely changes in hydrology due to climate change), can have reciprocal effects on the surrounding environment including a disruption to the local hydrology and related biological systems from changes in the ability for the lake to accommodate surface run-off and dewatering.

A range of mitigation measures are incorporated into the Project, including both design features and operational practices that reduce the potential for effects. All Project components will be constructed, operated, and closed in accordance with governing federal, provincial, and municipal regulations, as well as industry regulations and standards. In addition to the mitigation measures identified, the Project's Emergency Response Plan (EIS Annex 5C), Waste Management Plan (EIS Annex 5H), Sediment and Erosion Control Plan (EIS Annex 5F), and Environmental Protection Plan (EIS Annex 5D) provide further mitigation to potential natural and climate-related hazards.In addition, additional mitigation measures have been identified in Chapter 18, Accidents and Malfunctions, for potential effects to the surrounding environment with regards to major precipitation events, fire, groundwater, and hydrology. With the mitigation identified for these effects, measurable residual impacts are not expected.

Due to the uncertainty associated with climate change, the most effective mitigation measure at this time for climate and geohazards may change in the future. Therefore, mitigation measures must be adapted through a continual improvement and an adaptative management plan.

It is expected that the Project will be resilient to potential effects of the environment, including the effects of climate change.

6. Environmental Management, Monitoring, and Follow-Up

The purpose of **Chapter 20, Environmental Management, Monitoring, and Follow-Up**, of the EIS is to present the Project mitigation measures, management programs and plans, and monitoring and follow-up programs to support implementation of the Project in a manner that avoids or minimizes adverse effects on the biophysical and socioeconomic environments. Champion will implement and maintain these mitigation, monitoring, and follow-up programs throughout all phases of the Project.

6.1 Predictive Modelling Completed

Since acquisition of the Project in 2021, Champion has completed a thorough review of the proposed mitigation measures; monitoring requirements, commitments, and conditions outlined in the previous EIS; the CEA Agency Comprehensive Study Report (CEAA 2013); and the conditions outlined in the Lieutenant-Governor in Council's 2014 environmental assessment release (Government of NL 2014). Several of these conditions involved updating or completing additional predictive modelling. The modelling completed was used to inform environmental design features and mitigation, effect predictions and monitoring requirements. This has included the following:

- An updated hydrogeological model (TSD V) that conservatively estimated groundwater inflows to inform updated water management infrastructure (TSD II, EIS Chapter 2).
- Water Balance and Water Quality Model (TSD VI) to predict changes to water levels and concentrations of contaminants of potential concern. The model was based on the outcomes of the hydrogeology model and updated Geochemical Characterization and Source Terms. The water balance informed the water management strategy for the Project and water quality risks associated with the Project.
- Air Quality Dispersion Modelling (EIS Chapter 5, Appendix 5A) to conservatively model atmospheric concentrations of contaminants of potential concern to the environment and local receptors, including cabin owners.
- Noise Modelling (EIS Chapter 6) to model noise levels to the environment and local receptors, including cabin owners.
- Human Health Risk Assessment Modelling (TSD XI) to predict the risk of effects to human health from environmental sources, including surface water, groundwater and air quality. The model predicted risks to human receptors, including cabin owners and local communities.

6.2 Environmental Design Features and Mitigation Measures

Environmental design features and mitigation measures are integral to the design of the Project and are aimed at preventing or reducing adverse effects on the environment and people. These measures include actions to eliminate, reduce, control, or offset the negative adverse effects, with restitution through replacement, restoration, compensation, or other means as necessary (IAAC 2024).

Through the pre-Feasibility Study (Champion 2024) and the EIS, Champion has incorporated several environmental design features into the design of the Project will improve efficiencies of the mining operations as well as reduce the environmental effects associated with the Project. The development of environmental design features and measures involved an iterative process in collaboration with subject matter experts from the Project development, environmental, and socioeconomic teams, as well as Indigenous Groups, public stakeholders, and regulators. Best management practices, management policies, and regulatory requirements were also considered in the identification of environmental design features. A list of environmental design features included into the Project are summarized in Table ES-19.

As part of the environmental effects assessment, additional environmental protection and mitigation measures have been identified to further avoid or minimize environmental effects associated with the Project. These additional measures have been identified in the applicable technical chapters of the EIS. Mitigation measures identified also include those measures that were proposed and approved through the previous Alderon EIS and/or Environmental Management Plans to mitigate environmental effects. A detailed list of mitigation measures is provided in Appendix 20A of the EIS.

Table ES-19: Environmental Design Features Incorporated into Project Design

Component or Facility	Environmental Design Feature	Rationale
IPCC system	The previous EIS proposed mine rock would be hauled from the Rose Pit and deposited in the Mine Rock Stockpile (referred to as the Rose South Disposal Area). Champion has since integrated the use an IPCC system into the design, where mine rock will be crushed inside Rose Pit before being conveyed to the mine rock stockpile.	Incorporating the IPCC system will reduce the number of haul trucks needed to haul mine rock. This improvement will result in a reduction of particulate, greenhouse gases, noise and light emissions.
Crushed ore stockpile	The previous EIS proposed two uncovered crushed ore stockpiles. Champion is now proposing one crushed ore stockpile within a geodesic dome.	The geodesic dome will reduce dust emissions compared to the uncovered crushed ore stockpiles previously proposed.
Rose Pit design	Champion has revised the design of the Rose Pit and has increased the area of the pit footprint from approximately 2.80 km^2 (280 ha) (as proposed in the Project Registration) to 2.98 km^2 (298 ha).	The updated design of the Rose Pit improves pit wall stability, reduces mine rock generated, and increases the ore quantity available for mining.
Rose Pit water management facilities and infrastructure	In the previous EIS, water would be collected within in-pit sumps and pumped from the pit into an engineered settling basin to allow for treatment of suspended solids and residual chemistry from blasting operations. The total operational case open pit mine water balance was estimated to require an average dewatering rate of 433.9 m^3/h (10,413.6 m^3/day) under climate normal conditions (Alderon 2012). Any surface water flow upstream of Rose Pit would be diverted around the perimeter of the pit in diversion channels into Pike Lake South, preventing this water from entering the pit. Champion updated the hydrogeological modelling which increased the assumed average dewatering rate to approximately 40,000 m^3/day. This increase has resulted in the need for additional and water management infrastructure.	The Comprehensive Study Report (CEAA 2013) recommended that the model of the existing hydrogeological environment around the proposed open pit be updated to better inform the potential effects of Project. Champion's additional modelling work took a conservative approach to inflow estimates that resulted in a Rose Pit higher dewatering rate estimate and overall increase to the predicted volume of water that needs to be managed during Operations. This has enabled the need to assess and design infrastructure with incremental storage capacity and effluent volume.
Other water management infrastructure	Water management at the site has been modified since the Project registration.	These modifications were made to optimize water re-use and treatment.
Mine rock stockpile	The mine rock stockpile was redesigned to reduce the steepness of the slopes (3:1). This has resulted in a slightly larger mine rock stockpile footprint with the same capacity. This change also resulted in modifications to the collection basins and overall ditching and road alignments around the stockpile.	The mine rock stockpile slope and design has been updated to support reclamation requirements for Closure.
Overburden and mine rock stockpile collection ponds	In the previous EIS, run- off and drainage from these stockpiles would be controlled during Operations using perimeter ditching / drains and small settling ponds, as required, prior to discharge to the receiving environment. Champion is now proposing for run-off and drainage from these stockpiles be diverted to collection ponds and conveyed to a water treatment plant before discharge into the receiving environment.	The Comprehensive Study Report (CEAA 2013) recommended that Alderon design surface drainage to prevent flooding of stockpile areas. Champion has advanced this commitment by incorporating these collection ponds into the design of the Project. Run-off and drainage from the overburden and mine rock stockpiles will now be collected and processed through a water treatment plant prior to discharge into the receiving environment.

Component or Facility	Environmental Design Feature	Rationale
Kami railway alignment	The preliminary railway alignment identified in the Project Registration would pass east of the Town of Wabush to the Kami site. This preliminary alignment was selected so that railcars can bypass the Town of Wabush and is a similar alignment to the one defined and assessed in the previous EIS. Champion has since then moved the railway line north of the site and west of the Town of Wabush.	The railway alignment was moved farther north to avoid the Wahnahnish Lake Public Water Supply Area.
Eastern access road	The preliminary road alignment identified in the Project Registration would pass east of the Town of Wabush to the Kami site. This preliminary alignment was selected so that traffic can bypass the Town of Wabush and is a similar alignment to the one defined and assessed in the previous EIS. Champion has since then moved the access road alignment to the north of the site and west of the Town of Wabush.	The access road was moved farther north to avoid the Wahnahnish Lake Public Water Supply Area.
Western access road	Champion proposed the western access road in the Project Registration to be located east of Duley Lake Provincial Park with upgrades to meet the requirements for construction. The western access road has now been moved to the west side of Duley Lake Provincial Park based on input received from local residents and cabin owners related to potential nuisance effects.	The new alignment reduces interactions between the Project and local residents and cabin owners.

EIS = Environmental Impact Statement; IPCC = in-pit crushing and conveying.

6.3 Environmental Management Plans

Environmental management plans will be used as a mechanism for the implementation of mitigation measures identified through the environmental assessment process. In 2014, Alderon submitted environmental management plans to the former Department of Environment and Conservation for approval to fulfill provincial EA release conditions. The plans were approved by the provincial Minister of Environment and Conservation in May 2014 (Government of NL 2014). Champion has adopted the previously approved environmental management plans and has updated these plans to reflect updated Project design and optimizations, and the results of the effects assessment presented in this EIS. A Gender Equity, Diversity and Inclusion Plan, Workforce and Employment Plan, and Transportation Impact and Traffic Management Plan will be prepared by Champion following the submission of the EIS and prior to Construction. The Environmental Protection Plan and Environmental Effects Monitoring Program will also be updated following submission of the EIS and in consultation with applicable government departments.

6.3.1 Gender Equity, Diversity and Inclusion Plan

To meet the requirements of the EIS Guidelines (Government of NL 2024), Champion acknowledges a Benefits Agreement that includes a Gender Equity, Diversity and Inclusion Plan; it was signed by both the Government of NL and the Kami Mine Limited Partnership in 2014 (refer to **Annex 5A** of the EIS). Champion is committed to fostering an inclusive work environment dedicated to promoting diversity, equality, and inclusive practices within its organization. These values will be integrated into all aspects of the Kami Project's operations, from construction through to mine closure.

It is a strong belief for Champion that the updated Gender Equity, Diversity and Inclusion Plan shall address access to training, employment, and procurement opportunities for women, Indigenous peoples, and other underrepresented groups. This Plan will apply to both Champion and its contractors, and it will be reinforced by corporate policies that promote diversity and inclusivity. To make sure it respects current standards and expectations, an assessment of the 2014 Gender Equity and Diversity plan is currently underway to inform the new and up to date Gender Equity and Diversification plan Champion is developing. Following this assessment, the Workforce and Employment Plan will be updated and issued prior to the Construction phase.

6.3.2 Dam Safety Plan

The Dam Safety Plan (refer to **Annex 5B** of the EIS) intends to present dam classifications based on the Canadian Dams Association, a proposed dam management plan, a preliminary map of potential zones affected by dam breaks and a preliminary assessment of potential credible failure modes of each water and tailings management infrastructure involved in the Project. The dams included in this Plan are the dams and dikes required for the Rose Pit water management and stockpiles water management and the dikes required at the TMF. The proposed dam management plan is conceptual and will be detailed before the commissioning of the Project as part of an operational manual of the site (Operation, Maintenance, and Surveillance Manual). When the Project reaches subsequent phases, namely the design, Construction, Operations and Closure phases, more details of the Dam Management Plan will be established or updated.

6.3.3 Emergency Response Plan

The Emergency Response Plan (refer to **Annex 5C** of the EIS) outlines the clear procedures to be followed by Project personnel, including Champion employees, contractors, sub-contractors, regulators and visitors during emergency situations while undergoing Project construction, operations and site closure activities. Champion mainly focuses on prevention rather than reactive response; however, a well-planned emergency response is essential. Effective planning can shorten the time needed to take crucial actions during an emergency, thereby reducing its overall impact to people and the environment.

The Emergency Response Plan is a dynamic document that may require updates to address unforeseen emergency scenarios or improvements identified through evaluations of emergency simulations or regulatory updates. Such revisions will be undertaken throughout the Project duration to ensure alignment with evolving circumstances, fostering open communication across all levels and facilitating continuous enhancement.

6.3.4 Environmental Protection Plan

The EPP will be a standalone document that establishes work practices and will assign roles and responsibilities that all Project participants will follow to mitigate negative environmental effects associated with the Project. A proposed Annotated Table of Contents for the EPP is provided as **Annex 5D** of the EIS. The scope of the EPP covers the engineering, procurement, Construction and commissioning phases of the Project, and applies to Project personnel, contractors, subcontractors, suppliers, service providers, and all employees of these organizations. The EPP will be submitted by Champion subsequent to the completion of the EIS, and prior to the initiation of Construction phase.

6.3.5 Erosion and Sediment Control Plan

The Erosion and Sediment Control Plan (refer to **Annex 5F** of the EIS) identifies requirements and actions for the management of soil erosion by wind or water and transport of suspended sediment generated by the Project. This will also include all related documentation and reporting requirements for regulatory bodies and expectations of Champion. The Erosion and Sediment Control Plan is a dynamic document that may require updates to address unforeseen scenarios or improvements identified through process evaluations. Such revisions will be undertaken throughout the Project duration, mainly during construction, to ensure alignment with evolving circumstances, fostering open communication across all levels and facilitating continuous enhancement.

6.3.6 Kami Engagement Plan

The Kami Engagement Plan (KEP) (refer to **Annex 5G** of the EIS) serves to meet the requirements outlined in **S**ection 7.2.4, Section 7.2.5, and Section 7.2.8 of the EIS Guidelines (Government of NL 2024), for the development of the Public Participation Plan, Indigenous Participation Plan, and Domestic Wood Cutting Consultation Plan, respectively. These plans combined to form the KEP which has been developed based on Champion's engagement objectives for the Project and was informed by the previous engagement work completed with public stakeholders and Indigenous groups by Alderon during the previous EIS (Alderon 2012).

Champion is dedicated to implementing the KEP and engaging with key stakeholders and the public to help ensure that expectations and regulations are being met.

6.3.7 Waste Management Plan

The Waste Management Plan (WMP) (refer to **Annex 5H** of the EIS) identifies requirements and actions for the management of waste generated by the Project. This includes methods to reduce, reuse, recycle, recover, and/or manage residual waste through off-site disposal. Champion seeks to achieve and maintain a high degree of control over the collection, storage, transportation, and disposal of waste to minimize adverse environmental effects while ensuring compliance with all applicable acts, regulations and standards. This will also include all related documentation and reporting requirements for regulatory bodies and expectation of Champion.

The overarching purpose of the WMP is to ensure the responsible and environmentally sustainable handling, storage and adequate disposal of all waste materials generated during all the phases of the Project, thereby, minimizing potential environmental and health impacts.

6.4 Follow-Up and Monitoring Framework

Environmental assessment predictions about future conditions have a level of uncertainty that cannot be reduced to zero; therefore, monitoring and follow-up programs are implemented to verify predicted effects, evaluate the effectiveness of mitigation measures, and to measure compliance with regulatory conditions of approval and statutory requirements. Monitoring also identifies unanticipated effects, and provides input into corrective actions or adaptive management to limit those effects. Monitoring also seeks to confirm compliance with commitments made during the EIS process. Collectively, these actions improve the overall environmental performance of a project.

Monitoring programs are proposed in each technical chapter of the EIS (Chapter 5 to Chapter 19), and summarized in Appendix 20B of the EIS. The monitoring programs proposed in the EIS formulate the conceptual EEMP, which is presented in **Annex 5E** of the EIS.

The EEMP is a living document that describes the steps taken by Champion to meet and maintain a high degree of control over the environmental mitigation measures proposed in the EIS to minimize adverse environmental effects to be implemented throughout the lifespan of the Project (as defined by the Project phases). Champion is currently planning and designing for the Rehabilitation and Closure Plan which will be submitted to the province following the submission of the EIS, and which will include an assessment of long-term mitigation and monitoring requirements. Therefore, the current version of the EEMP focusses on mitigation and monitoring of environmental aspects during the Construction and Operations phases and will be adapted to include future phases of the Project.

In the event that monitoring results indicate that realized effects differ from the predicted effects further investigation will be undertaken and mitigation strategies may be modified as needed to reduce or eliminate unforeseen adverse effects. Results from the monitoring and follow-up programs would be reported and submitted to regulators in line with the relevant regulatory permits and approvals. A reporting program will be developed based on the requirements for the Project.

6.4.1 Adaptive Management

Adaptive management is a systematic process for improving environmental knowledge and adjusting management practices based on outcomes. It provides a structured yet flexible approach to decision-making, allowing for adjustments in monitoring and mitigation measures throughout a Project's lifespan. This approach ensures that environmental protection measures remain effective and responsive, supporting compliance and minimizing adverse effects throughout the Project's lifespan.

Figure ES-19 shows the integrated adaptive management framework that is proposed for the Project.

The adaptive management process:

- responds to uncertainties in environmental effects predictions and mitigation effectiveness
- incorporates new data from monitoring programs to refine mitigation and management strategies
- enables corrective actions when monitoring results deviate from expectations or when effects are not well understood

In accordance with the EIS Guidelines, the detailed monitoring program may be finalized after the EIS process in consideration of comments received by government agencies, Indigenous groups, and other interested parties. An Adaptive Management Plan that focuses on the Operations phase and includes details on its process and application, will be prepared and appended to the EPP, completed following the submission of the EIS.

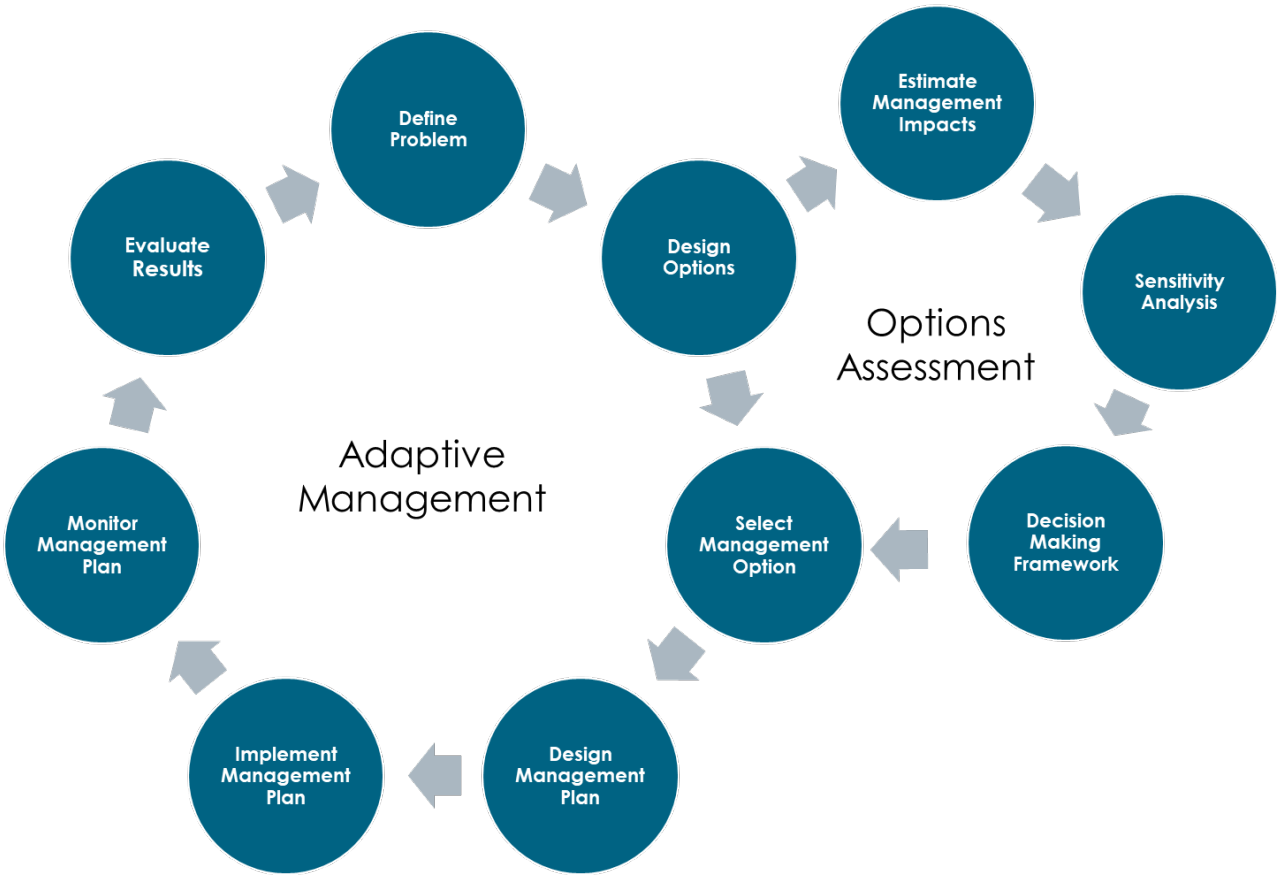

Figure ES-19: Integrated Adaptive Management Framework

7. Summary of Significance of Residual Effects

Chapter 21, Summary of Significance of Residual Effects of the EIS provides a tabular summary of the characterization of predicted residual effects on VECs of the biophysical, cultural, and socioeconomic environments identified in the effect pathway screening of each applicable technical chapter (Chapter 5 to Chapter 17). The summary includes a determination of significance of the residual Project effects and cumulative effects (i.e., in consideration of other RFDs) for VECs. The summary also includes a comparison of the characterization and significance determination of residual effects presented in this EIS, with those presented in the previous EIS (Alderon 2012).

Where applicable, the cumulative effects assessment considered how future climate change may interact with the Project and other developments to affect VECs.

Following the residual effects analyses of the Project and cumulative effects, a determination of significance was completed for VECs based on defined significance thresholds. Significance thresholds (i.e., significance definitions) were informed by the interaction between the residual effects criteria. Significance determination was binary, such that adverse Project and cumulative effects were either deemed significant or not significant for each VEC. Overall, residual Project effects and residual cumulative effects were determined to be not significant, except for services and infrastructure. The predicted demand for housing and accommodation, child care, education and training, and health care services was found to exceed the existing capacity of these services and infrastructure in the LSA on an ongoing and consistent basis. Effects are expected to be greatest during the final years of construction and initial years of operation, when the demand on these services will be highest.

8. Engagement

Chapter 22, Engagement, of the EIS provides a description of Champion's approach to engagement and engagement activities, and summarizes results of engagement undertaken between Project initiation on November 22, 2022, and the EIS submission.

8.1 Approach to Engagement

As described in **Chapter 1, Introduction**, Champion's commitment to responsible mining is reflected in its values. The following four core values are the cornerstone of Champion's beliefs and guide daily operations (Champion 2025a):

1) **Pride**–Develop a collective sense of belonging in all spheres of iron ore mining.
2) **Ingenuity**–Leverage employee creativity and expertise to achieve and maintain efficient practices aimed at operational excellence.
3) **Respect**–Respect people, resources, the environment, safety standards, partnerships, and equipment.
4) **Transparency**–Promote transparent communications through active listening and open dialogue.

Champion's dedication to developing strong relationships with Indigenous Peoples, local communities and other public stakeholders is based on the following three pillars (Champion 2025b):

1) providing a safe and inclusive working environment, avoiding social inequities, and respecting human rights
2) engaging with communities by respecting corporate values
3) protecting the environment and biodiversity

Champion views relationships of trust with Indigenous Peoples and local communities as key to the success and sustainability of its operations. It is through local community relationships that Champion can successfully create lasting benefits, minimize negative social and environmental effects in the areas where it operates, and advance its contributions toward sustainable development. Champion engages with communities by contributing to local economic development through local hiring, sourcing, and community investments.

Champion's engagement objectives have been developed in accordance with the EIS Guidelines to help ensure a comprehensive and transparent engagement process. Champion's primary objectives are to:

- provide regular updates and share Project information with stakeholders and Indigenous groups
- foster ongoing engagement with Indigenous groups and stakeholders throughout the EIS process and the duration of the Project
- identify potential issues of concern early in the process
- modify the Project design, where feasible, to avoid or mitigate adverse environmental effects
- demonstrate how issues and concerns raised during engagement activities have been addressed in the EIS

This engagement process also extends outside the scope of the EIS process as other activities of Champion are conducted during this phase of the Project. Champion aims to minimize consultation fatigue with stakeholders and Indigenous groups by co-developing effective consultation and engagement processes.

Chapter 22 includes a summary of the topics of interest that were raised through engagement that was conducted by Alderon with Indigenous groups, the public and local community stakeholders between 2011 and 2014 through the completion of the previous EA. Through the previous EA process, these issues and interests informed the development of mitigation measures and commitments made by Alderon. Champion is committed to adopting previous mitigation measures and commitments made by Alderon to address the issues and concerns raised during the previous EA process, which remain relevant to the Project. Champion has also considered these past issues and interests, and any new issues and interests raised through future engagement with Indigenous groups, the public and local community stakeholders when developing new mitigation measures to reduce adverse effects and maximize positive benefits from the Kami Project.

8.1.1 Kami Engagement Plan

Champion has prepared an engagement plan, provided as Annex 5G of the EIS, KEP, to support ongoing engagement throughout all phases of the Project, including Construction, Operations and Maintenance, and Decommissioning and Rehabilitation. The KEP is intended to support the design and implementation of engagement and participation activities. The KEP outlines Champion's approach to continued engagement with Indigenous groups, public stakeholders, and other interested parties and details opportunities for continued and meaningful participation through subsequent phases of the Project (i.e., including Construction, Operations and Maintenance, and Decommissioning and Rehabilitation).

8.2 Indigenous Groups

Champion recognizes the unique relationship that Indigenous Peoples have with the natural environment in which they live. Champion is committed to developing and maintaining lasting relationships with Indigenous Peoples in aid of ensuring fruitful collaborations conducive to reconciliation and the establishment of a climate of understanding, trust, transparency, and mutual respect. Champion is therefore committed to:

- respecting the rights, interests, aspirations, culture, and natural-resource-based livelihoods of Indigenous groups in the design and development of its projects and operations
- seeking to reflect the diversity of host communities and Indigenous groups in Champion's workforce
- applying mitigation measures to address adverse effects of Champion's activities on host communities and Indigenous groups and offer them positive and lasting benefits
- seeking to obtain the voluntary, prior, and informed consent of Indigenous groups when significant effects are likely to occur, either due to the relocation of property or the disturbance of land, territories, or cultural heritage that is important to Indigenous groups
- incorporating the results of discussions and engagement processes with host communities and Indigenous groups in the EA, Project mitigations, and agreements with host communities and Indigenous groups

The Crown has a Duty to Consult and, where appropriate, accommodate Indigenous Peoples when it considers conduct that might adversely affect potential or established Indigenous and/or treaty rights. The Crown may delegate procedural aspects of consultation to provinces and proponents. During the previous EA, five Indigenous groups were identified by the former Canadian Environmental Assessment Agency as potential Rightsholders (i.e., as having potential Indigenous and/or treaty rights that could be adversely affected by the Project). The Indigenous groups include:

- Innu Nation
- Innu Takuaikan Uashat mak Mani-Utenam
- La Nation Innu Matimekush-Lac John
- Naskapi Nation of Kawawachikamach
- NunatuKavut Community Council

The NL Office of Indigenous Affairs and Reconciliation confirmed to Champion that the Indigenous groups previously identified for the current EIS remain the same as those requiring engagement during the previous EIS.

Over the past two years of engagement with the five Indigenous groups identified for the Project, Champion has been approached to initiate discussions regarding the development of Impact Benefit Agreements. Champion remains committed to fostering strong, respectful relationships and advancing mutually beneficial outcomes related to the Kami Project. However, to respect the confidentiality of these discussions and uphold the integrity of ongoing negotiations, the content of Impact Benefits Agreement discussions will not be disclosed within this EIS.

Champion is committed to working with provincial regulators and will provide regular updates throughout the Project life cycle regarding engagement activities with Indigenous groups. Champion is also willing to provide opportunities to facilitate provincial government participation during KEP activities with Indigenous groups.

8.3 Public Stakeholders

The term "stakeholder" refers to a broad range of interested and potentially affected individuals and groups, including local government organizations, communities, businesses, non-governmental organizations, public interest groups, and clubs. Indigenous Peoples are Rightsholders rather than stakeholders, as Indigenous Peoples hold Indigenous rights protected under Section 35 of the *Constitution Act, 1982*. In the context of this Project, a stakeholder may be any person or group of people who have an interest to protect, who have a stake in the issue, or who have knowledge to contribute. This includes a person or group who would be directly affected by the Project and a person or group with more general or varying degrees of concern, interest, and desire to engage with issues related to the Project.

Stakeholders for the Kami Project have been identified based on previous experience and information acquired from Champion, as well as from a review of available secondary information. Champion identified interested stakeholders using the following criteria:

- proximity of persons or groups that reside, have property, or have an interest within or near the proposed Project area, or could be potentially affected due to proximity from the proposed Project area
- past or current interest of persons or groups in the Project, or similar projects or developments in the vicinity of the Project

- persons or groups not located close to the Project area, but who could potentially be affected by the outcomes of the Project

As documented in the previous EIS (Alderon 2012), previous engagement with the following stakeholders took place:

- local stakeholders, including residents of the communities of the Town of Labrador City (Labrador City), Town of Wabush (Wabush), and the Town of Fermont (Fermont)
- other potentially impacted or interested stakeholders beyond these boundaries, including provincial and federal government agencies and departments, non-governmental organizations, economic development organizations, and outdoor recreation users and outfitters

Public stakeholders for the Project include municipal governments, cabin owner associations, economic development bodies, environmental and social service organizations, recreational groups, and non-profits, reflecting a broad and inclusive engagement approach.

8.4 Government Agencies

Communication and coordination with provincial and federal regulators are critical to the success of the Project's EA process. Early engagement helps to ensure that regulatory agencies are well informed about the Project and provides an opportunity to establish expectations, clarify regulatory requirements, and address potential issues and concerns prior to the submission of the final EIS. This proactive approach helps mitigate approval risks and facilitates a more effective review process.

Champion initiated the provincial EA process through the submission of a new Project Registration document (WSP 2024). The Department coordinated the review of the Project Registration document with interested government departments and agencies, and following a Decision Letter which concluded that an EIS would be required for the Project and an Environmental Assessment Committee was established. The Environmental Assessment Committee represents the key regulatory agencies to be consulted for the Project. The Environmental Assessment Committee includes representatives from the following provincial and federal government agencies:

Provincial

- Department of Environment and Climate Change
  - Environmental Assessment Division–Chair
  - Climate Change Branch
  - Pollution Prevention Division
  - Water Resources Management Division
- Executive Council
  - Office of Indigenous Affairs and Reconciliation
  - Office of Women and Gender Equality
- Department of Fisheries, Forestry and Agriculture
- Department of Health and Community Services
- Department of Jobs, Immigration and Growth
- Department of Industry, Energy and Technology
  - Mines Branch
  - Energy Branch
- Department of Labrador Affairs
- Department of Municipal and Community Engagement
- Department of Tourism, Culture, Arts and Recreation

Federal

- Environment and Climate Change Canada
- Fisheries and Oceans Canada
- Transport Canada

8.5 Engagement Activities

Champion has implemented a comprehensive engagement strategy to ensure meaningful, transparent, and ongoing dialogue with Indigenous groups, public stakeholders, government agencies and other interested parties throughout all phases of the Kami Mining Project. This approach builds on prior efforts by Alderon and reflects Champion's commitment to continuity and responsiveness.

A stakeholder mapping exercise conducted in November 2023 helped identify active and emerging Indigenous groups and stakeholders. Engagement activities have included weekly fieldwork updates, public information sessions, in-person and virtual meetings, formal correspondence, and participation in regional forums.

To support regional planning and collaboration, Champion established the Kami Working Group in May 2024. This group includes representatives from local municipalities, cabin owners' associations, recreational groups, and a provincial legislator. It plays a key role in addressing project-related concerns and supporting Project-planning efforts.

Champion also joined the Labrador West Alliance in June 2024, a revitalized regional task force composed of industry, government, and community leaders. The Alliance aims to address long-standing regional development challenges such as housing, infrastructure, and workforce needs that are identified in both the 2014 Plan BIG and the 2024 Future of Lab West Summit.

Engagement tracking is guided by a communications and engagement plan developed in November 2023. Feedback from Indigenous groups and stakeholders is systematically categorized and integrated into the EIS, ensuring that concerns are addressed across environmental, socioeconomic, and project-specific components.

8.6 Identification and Validation of Issues and Concerns

The issue tracking and resolution process is described in the KEP (EIS Annex 5G). All comments from Indigenous groups and public stakeholders (including domestic wood cutters) as well as responses from Champion were documented and, where applicable, considered in the preparation of the EIS and design and planning of the Project. Input was be obtained at open houses, meetings, and personal contact through verbal and written comments (i.e., comment forms). Depending on the magnitude and nature of any concerns, Champion will make every effort to address and resolve the concern directly with the Indigenous groups and stakeholders.

Champion has actively engaged with Indigenous groups and stakeholders through a structured consultation process that includes categorizing and tracking issues to understand their significance, validating concerns through meeting notes and follow-ups, and responding with tangible actions—such as road maintenance commitments for cabin owners. The company has also respected Indigenous data governance by applying Ownership, Control, Access, and Possession principles, ensuring communities had the opportunity to review and control information about themselves prior to the EIS submission. Figure ES-20 presents the frequency of issues raised through the EA process.

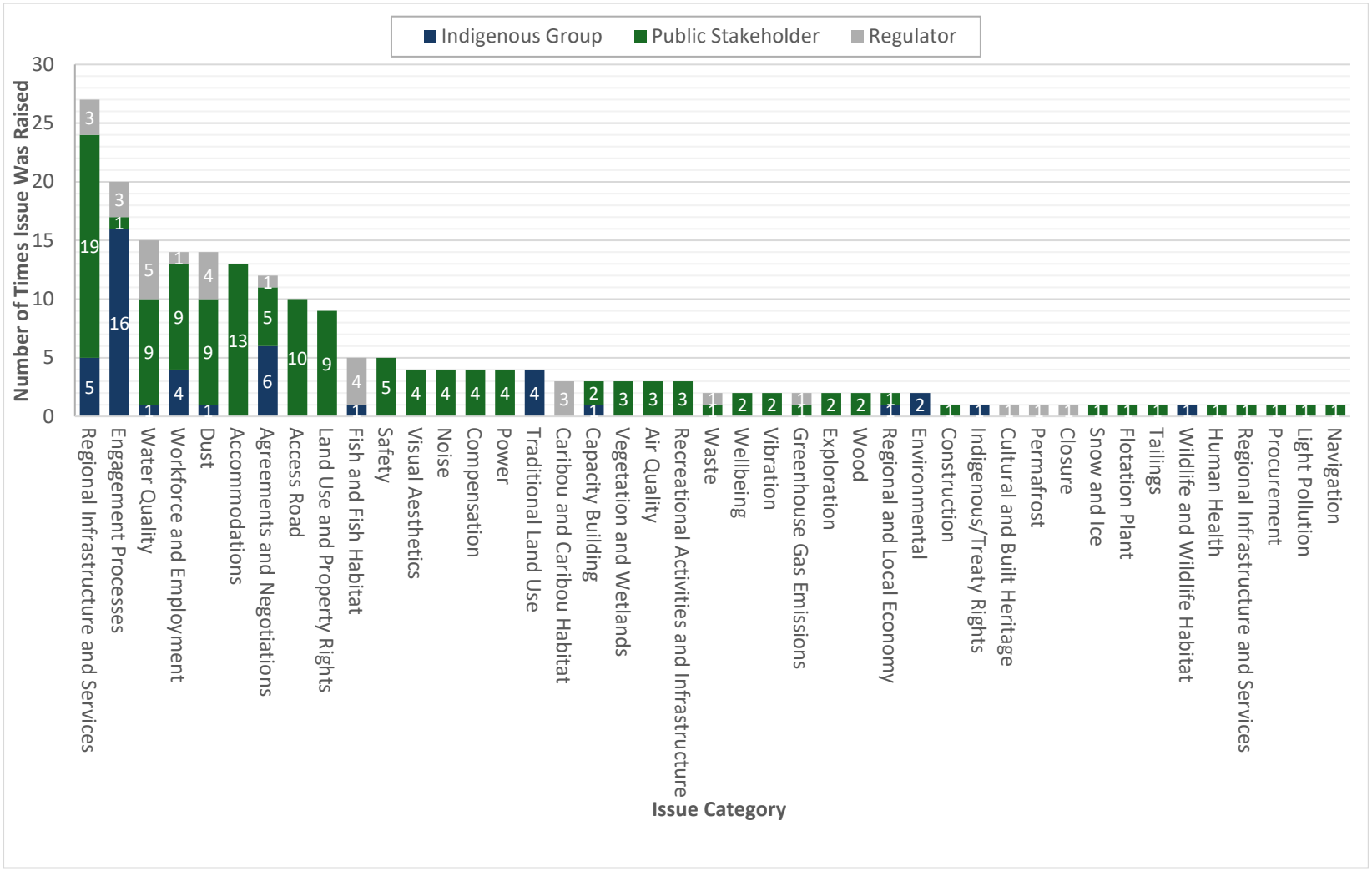

Figure ES-20 : Frequency of Issues Identified During Consultation Activities

8.7 Moving Forward

Engagement with Indigenous groups, public stakeholders, and regulators will continue throughout the life of the Project, as outlined in the following subsections.

8.7.1 Construction

During the Construction phase of the Project, Champion will maintain ongoing communication with and Indigenous groups and public stakeholders (including domestic wood cutters) to keep them informed about Construction phase progress, potential disruptions, and mitigation measures. Local employment and procurement will be prioritized to help ensure that the benefits of the Project directly reach local communities and groups. Champion will work with its contractors so that they are aware of engagement requirements and comply with commitments made.

Public engagement activities during the Construction phase will include:

- implementation and continuous improvement of the Plans, including the KEP
- public announcement and press release at the onset of the Construction phase
- posting construction signage and placing flagging in relevant areas to advise the public to exercise caution
- public information sessions and community events to continue face-to-face community engagement

8.7.2 Operation and Maintenance

During the Operations and Maintenance phase of the Project, Champion will continue to engage with Indigenous groups and public stakeholders (including domestic wood cutters) through established channels to address issues or concerns relating to operations such as noise, vibration, marine traffic, and land and resource use. Public engagement activities during this phase will include:

- public announcement and press release at the onset of the Operations and Maintenance phase
- Project commencement press conference for public stakeholders, Indigenous groups, media, and local communities
- provision of facility and site tours to local government, service organizations, and other interested parties

8.7.3 Closure

Champion intends for the Project to remain operational for 26 years. Upon the eventual Closure phase of the Project, Champion will collaborate with Indigenous groups and public stakeholders to implement decommissioning and rehabilitation plans. The public will be made aware of Project developments relating to decommissioning and rehabilitation. Public engagement during this phase will include:

- meetings and presentations on the development of a Rehabilitation and Closure Plan
- public information session to gather feedback on community expectations for the area

9. Commitments Made in the Environmental Impact Statement

Chapter 23, Commitments Made in the Environmental Impact Statement, of the EIS provides a list of the commitments made by Champion in the EIS, related to future fieldwork and engagement, environmental effects mitigation and management measures, and environmental monitoring and follow-up. This chapter meets the requirements of Section 15 (Commitments Made in the EIS) of the EIS Guidelines issued on December 19, 2024, by the NL Department of Environment and Climate Change (Government of NL 2024).

The list of commitments provides the commitment type, a description of each commitment, the applicable temporal phase(s) of the Project when the commitment would be addressed and which EIS chapters are applicable to the commitment. Each commitment is categorized by commitment type, to identify the activity associated with the commitment. These commitment types include the following:

- **future work** that is to be undertaken by Champion following the submission of the EIS, such as additional studies or engagement
- **permitting** to be secured in support of permitting and approvals (beyond the EIS) required for the implementation of the Project
- **mitigation and/or monitoring** that reference or are supplementary to mitigation and monitoring requirements included in the VEC technical assessments (EIS Chapter 5 to Chapter 19), which are summarized in Chapter 20, Environmental Management, Monitoring, and Follow-Up, of the EIS

Champion will adhere to provincial, federal, and municipal legislation and permitting requirements throughout all phases of the project. Champion is committed to honouring its commitments made through engagement with Indigenous groups, public stakeholders, and regulatory agencies. Following the submission of the EIS, optimizations and improvements to the Project may be identified through subsequent engineering and design efforts, which may modify or address listed commitments.

10. Summary and Conclusions

Chapter 24, Assessment Summary Conclusions, of the EIS summarizes the overall findings of the EA and how the objective of the EIS has been met.

VECs were identified as relevant and important to the environmental assessment based on regulatory requirements and engagement with Indigenous groups and stakeholders. The VECs included atmospheric environment VECs (air quality, climate, noise, vibration, and light); aquatic environment VECs (groundwater, surface water [composed of 3 VECs], and fish and fish habitat); terrestrial environment VECs (vegetation, wetlands, protected areas and wildlife [composed of 15 VECs]); and social environment VECs (heritage and historical Resources, Indigenous land and resource use, other land and resource use, economy and employment, services and infrastructure, and community health and well-being). The selected VECs reflect the key issues raised by regulators, Indigenous groups, and stakeholders through consultation with Champion and the EIS Guidelines.

The assessment included a characterization of the existing conditions within the spatial boundaries of each VEC, including a discussion of the influences of past and present physical activities on the VECs, leading to the current conditions. The assessment followed standard EA methods for describing Project interactions with each of the VECs and determining the potential environmental effects, including areas of federal jurisdiction, associated with the Project for the Construction, Operations and Maintenance, Closure phases. The assessment also considered a known RFDs and physical activities with potential residual effects that could overlap spatially and temporally with the Project's residual environmental effects to VECs. The cumulative effects assessment used publicly availably information (e.g., Project Registrations or EIS reports), to describe the environmental effects of RFDs to VECs.

The environmental effects assessment used a precautionary approach, and conservative assumptions have been made, so that potential adverse effects are generally overestimated rather than underestimated. Mitigation and environmental protection measures have been identified to reduce or eliminate adverse environmental effects, and the residual Project and cumulative effects have been characterized including a determination of their significance. Key findings for each discipline and the assessment of their VECs are summarized in Section 5 of this Executive Summary. A monitoring and follow-up program will be implemented to verify the predicted effects, evaluate the effectiveness of mitigation, and measure compliance with future permit and licence conditions and statutory requirements. Adaptive management will also be implemented throughout the lifespan of the Project.

10.1 Next Steps

10.1.1 Provincial Environmental Assessment Process

As described in Section 11 of the *NL Environmental Assessment Regulations, 2003*,upon receipt of this EIS, the Minister will promptly forward it to a review committee for review. Within seven days of receipt, the Minister will announce the availability of this EIS for public review. Interested parties will have a 50-day window to submit their written comments and responses to the Minister.

The review committee will then evaluate the EIS, and any comments received during the review period and make a recommendation to the Minister. This recommendation will outline if the EIS is adequate and the project can be released from the EA process or if further revisions are required.

Should the Minister require additional information or clarification, they will inform the proponent within 70 days of receiving the EIS. This period includes the time needed to announce the receipt and gather public comments. If no further work is mandated, the Minister will notify the proponent in writing, confirming the EIS's compliance with the Act and guidelines.

This decision will be publicly announced within 10 days, marking the conclusion of the EIS approval process.

10.1.2 Permitting Requirements

The Project is subject to federal and provincial legislation, regulations, permitting, and authorization requirements, which will be administered by appropriate authorities throughout the life cycle of the Project, to which Champion must obtain and comply with. Champion will work with regulatory agencies to confirm permitting requirements for the Project, and to obtain the required permits and approvals. Specific regulations, permits, authorizations, and/or approvals which may be required for the Project have been identified in the EIS.

10.1.3 Ongoing Engagement

Champion is committed to ongoing, transparent, and inclusive engagement with Indigenous groups, public stakeholders, and regulators throughout the life of the Kami Project as outlined in the KEP prepared for the Project. Champion will regularly review

the KEP and refine the document based on input obtained through engagement activities and Project learnings. This adaptive approach will support the integration of feedback obtained throughout the engagement process to better guide the implementation of mitigation measures and commitments made during the EIS process, reinforcing Champion's goal of fostering its core values:Pride, Ingenuity, Respect, and Transparency.

10.2 Closing Statement

In June 2024, the Government of Canada announced the addition of high-purity iron to its list of critical minerals. This decision followed those of NL (November 2023) and Québec (January 2024), which also identified high-purity iron ore on their respective lists. High-purity iron is a rare and indispensable solution for decarbonizing the steel industry, which accounts for nearly 10% of global carbon emissions. The Labrador Trough hosts one of the largest resources of high-purity iron globally, creating an exceptional opportunity for NL to become a global leader in the sustainable green steel supply chain.

Champion's objective for the Project is to produce direct reduction quality iron ore. This material will enable the steelmaking transition towards DRI and electric arc furnace, which produce steel without the use of coal. This shift can contribute to a reduction in emissions of approximately 50% compared to traditional blast furnace or BOF production methods. This Project will thus have a substantial positive impact on the global green steel supply chain. Green steel is anticipated to play a critical role in the infrastructure and applications necessary to decarbonize our economies. The necessity of this critical material highlights the urgent need for the Project.

From the onset of the Project, Champion has sought to improve and build on the previous iteration of the Project that was released from the EA process in 2014. This has included the review of key issues and concerns raised by Indigenous groups and local stakeholders to understand and address these concerns in the Project updates. Champion has also addressed several conditions of the previous EA release, which has reduced both uncertainty and risk. Updates to the Project include the implementation of comprehensive water management infrastructure, improvements to the design of the tailings management facility, and efforts to incorporate best available control technologies, such as an IPCC system to reduce GHG emissions.

No significant adverse effects on biophysical and socioeconomic VECs were predicted for the Project or for the Project in combination with RFDs, apart from services and infrastructure. To manage this effect, Champion is committed to ongoing work with the Labrador West Alliance, a Regional Working Group of mining companies, municipalities, provincial, and federal government agencies, and the Labrador West Chamber of Commerce to help address common issues, such as labour supply, health care service capacity, transportation access and housing/accommodations.

Most of the VEC effect assessments determined similar results to what was assessed previously. Where changes to the characterization of residual effects were made, rationale was provided and where required, additional mitigation or monitoring commitments were made. Champion is committed to further improving the Project through an adaptive management process that will reduce uncertainty and further mitigate environmental effects.

In addition to addressing provincial and federal critical mineral objectives and commitments, the proposed Project would generate substantial socioeconomic benefits and opportunities for local communities, Indigenous groups, the province of NL, and Canada. These include increased direct local and national employment and associated indirect economic benefits and employment at local to national scales. The proposed Project would generate significant benefits through royalty and tax payments to the governments of NL and Canada. Champion would continue to prioritize training, employment, and business opportunities for the local communities closest to the Project.

In conclusion, the Project represents a considerable opportunity to support provincial, national and international sustainable development goals. It not only addresses the critical need for high-purity iron ore to enable to refinement of green steel but also provides considerable socioeconomic benefits. Champion is dedicated to ensuring the Project's success through transparent engagement, environmental stewardship and adaptive management.

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Appendix ES-A: Concordance Table

Kami Mining Project

Champion Kami Partner Inc.

Wabush, NL

Concordance Table

Environmental Impact Statement

Document Number: CA00387135261-R-Rev0-Concordance Table

July 2025

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Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
OUTLINE OF THE REQUIRED EIS CONTENTS		
Executive Summary		
The executive summary shall contain the following information: – identification of the Proponent; – A brief Project description; – Predicted biophysical environmental effects (including cumulative effects associated with the Project, and the consideration of climate change as part of the additive effect that can affect the environment as various effects accumulate over time, and other existing and reasonably expected future projects in the vicinity of the Project site); – Socio-economic factors and potential effects; – Alternatives; – Mitigation measures; – Residual effects; – Follow-up and monitoring programs; – All studies and plans required by the guidelines; – A summary of the fundamental conclusions of the EIS; and – A glossary of terms. The Table of Concordance may be included in the executive summary.	Executive Summary	No comments
Plain Language Summary		
The Proponent shall prepare a stand-alone plain language summary of the EIS in both of Canada's official languages (French and English) with a glossary of terms. The summary shall contain sufficient detail for the reader to identify the Proponent and to understand the Project and its alternatives, potential environmental, health, social and economic effects, and potential adverse effects. It shall also provide sufficient detail to understand proposed mitigation measures, and residual and cumulative effects associated with the Project (in consideration of other existing and reasonably expected future projects in the vicinity of the Project site). Indication of the Indigenous Governments and Organizations potentially affected by the Project shall be included. Finally, the summary shall also include all studies and plans required by the guidelines and a summary of the fundamental conclusions of the EIS.	Plain Language Summary	**No comments**

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
1.0 PROJECT INTRODUCTION AND INFORMATION		
1.1 Name of the Undertaking		
The EIS shall identify the Project as the Kami Iron Ore Mine Project.	Chapter 1 (Introduction), Section 1.2	Also referred to in the EIS as the Kami Mining Project
1.2 The Proponent		
This section shall introduce the Proponent by providing the following pertinent information: – Name of, and contact information for corporate body; – Name of, and contact information for chief executive officer; – Principal contact person for the purpose of environmental assessment, and contact information; – Key personnel, contractors, and/or sub-contractors responsible for preparing the EIS, and contact information; and – Disclosure of any affiliation or partnership with governmental or non-governmental organizations. This section shall include a description of the Proponent's history of mineral property development, mining, and ore production, identifying any previous and current such projects and their associated successes, failures and lessons learned.	Chapter 1 (Introduction), Section 1.2	No comments
1.3 Overview of the Undertaking: Key Project Components		
The intent of the overview is to identify the key Project components, rather than provide a detailed description of the Project, which will follow under section 2.0. The Proponent shall briefly summarize the Project by presenting the major Project components, associated activities, scheduling details, timing of each phase of the Project and other key features, including a detailed map of all Project components. If development of the Project will follow a phased approach, information about the incremental and phased development of the Project, including the timing of each phase of the Project, shall be described. The key components of the undertaking shall include, but not be limited to: a) All mine open pits; b) Ore processing infrastructure, including conveyors, ore stockpiles, process plant, and ore concentrate load-out; c) Waste management infrastructure, including landfills, and recycling area; d) Stockpiles, including overburden stockpiles, waste rock stockpiles, and tailings management facility; e) Water management infrastructure proposed to collect contact and non-contact water, including dams, dikes, perimeter ditches, settlement ponds, and collection ponds; f) Supporting infrastructure, including access roads, workforce accommodations (cafeteria, bunkhouses), mine service area (garages, warehouses, dry house/change room), core storage building, freshwater pumping stations, and g) Transportation corridors, including access roads and a railway corridor that includes a spur line to connect the mine site to the Quebec North Shore & Labrador Railway.	Chapter 1 (Introduction), Section 1.3	The detailed description of the Project is provided in Chapter 2

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
2.0 THE PROPOSED UNDERTAKING		
2.1 Study Areas		
The EIS shall contain a description of the geographical settings in which all components of the Project will take place. Aerial images and a precise description of geographic boundaries of all proposed Project sites shall be provided, including, but not limited to, the following sites: – Mine open pits, stockpiles, tailings, tailings management facility, water management structures, transmission lines, access roads, railway corridor, and laydown areas; – Ore processing facility and infrastructure, conveyors, auxiliary power sources, and storage facilities for explosives and hazardous materials, gas and liquid fuel; – Water sources and infrastructure to support the mine and accommodations facilities; – Mode and route of transport of ore from mine to the ship loading port in Sept-Iles; and – An outline of the area for which surface rights will be required for the Project, including, those areas already covered by the surface lease issued under the ***Mineral Act*** and areas for which additional surface rights will, or may, be required in support of the Project.	Chapter 2 (Project Description), Section 2.2, Section 2.6	– Figure 2-4 presents the Project components. – Figure 2-2 presents the existing Project limits with proposed infrastructure to identify additional rights that will be required.
A precise description of the geographic boundaries of the Project shall be presented in relation to the study area for each valued environmental component (VEC) (discussed in section 4.2). The boundary description shall be accompanied by most recent maps/aerial imagery of appropriate scale (e.g., 1:30,000, 1:20,000, or other) showing the entire Project study areas including surrounding waterbodies and watersheds, as well as illustrating the boundary of each study area with principal structures and ancillary works. The delineation of the study areas is crucial to scope the extent of the environmental assessment. The rationale used to delineate the boundaries of the study areas shall be provided. This description shall focus on those aspects of the Project and its settings that are important in order to understand the potential environmental effects of the Project, and shall provide the following information: a) Digital geospatial data of the Project study areas and all component parts, including, but not limited to, the following: i. nearest temporary and permanent residential and cottage dwellings and commercial and industrial sites; ii. municipal boundaries, planning areas and infrastructure; iii. communities and jurisdictions without municipal plans and development regulations; iv. traditional, cultural and recreational sites; v. tourist establishments and attractions, outfitter/guiding camps and trails; vi. domestic wood cutting areas; vii. industrial, private, semi-public, and public water supplies; viii. existing electrical infrastructure; and ix. navigation routes;	– Chapter 4 (Effects Assessment Methodology), Section 4.3.4.1 – Chapters 5 to 17	Chapter 4 describes the different study areas used in the effects assessment. Study areas for valued environmental components are presented and described in Chapters 5 to 17 of the EIS.

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
b) identification of any Project location overlap with existing land, freshwater users, and municipal boundaries and planning areas; and c) description of the environmental significance and value of the geographical setting in which the Project is proposed to take place, and the surrounding area, including, but not limited to, the following: i. existing and proposed national, provincial, and regional parks, reserves and ecologically and biologically significant areas (EBSA); ii. environmentally sensitive areas such as wetlands, estuaries, lakes and rivers; iii. habitats of federally and/or provincially listed species at risk (SAR), or species recommended for legal listing by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or the Newfoundland and Labrador (NL) Species Status Advisory Committee, including critical habitat for the designated species and other sensitive areas, and species of importance to Indigenous Governments and Organizations; and An overview map(s)/ image(s) shall be provided, noting the proximity of the study area to the above features.		
2.2 Rationale for the Undertaking		
The EIS shall describe the rationale for the Project in terms of its the need and purpose, including, but not limited to, opportunities that the Project is intended to satisfy, as well as the current and future markets for the iron ore produced from the Project (e.g., domestic or export use; markets). If the objectives of the Project are related to broader private or public sector policies, plans or programs, this information shall also be included (e.g., federal and provincial government commitments to reductions in GHG emissions).	– Chapter 1 (Introduction), Section 1.3.1 – Chapter 3 (Project Alternatives), Section 3.1	No comments
The need for the Project refers to a problem or opportunity that the proposed Project is intending to solve or satisfy and establishes the fundamental justification or rationale for the Project. The purpose of the Project is defined as what is to be achieved by carrying out the Project. The need for and purpose of the Project shall be established from the perspective of the Proponent and provide the context for the consideration of alternatives.	– Chapter 1 (Introduction), Section 1.3.1 – Chapter 3 (Project Alternatives), Section 3.1	No comments
2.3 Project Description		
The Proponent shall describe the scope of the Project for which the EIS is being conducted including: the construction, operation and maintenance, foreseeable modifications of all Project-related facilities, and the closure, decommissioning and rehabilitation of Project sites.	Chapter 2 (Project Description)	No comments

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
General Layout		
The EIS shall provide a written and graphic description (e.g., maps, aerial imagery and drawings) of the following physical features of the undertaking: a) mine site including, but not limited to, a description of the following: i. location of the mine pits; ii. location of the stockpiles, graded ore and overburden areas; iii. access roads, transmission lines, and railways; iv. water pumping stations; v. in-pit ore crusher station and conveyors; vi. the geographic boundaries of the Project areas; b) process plant including, but not limited to, a description of the following: i. concentrator and mill; ii. water treatment plant; iii. boiler house; iv. maintenance shop, warehouse, electrical rooms, storage areas, administration offices, employee facilities v. storage facilities for hazardous materials, gas, and liquid fuels; vi. storage areas for explosives associated with blasting; vii. auxiliary energy sources; viii. the geographic boundaries of the Project areas; c) tailings management facility, including, but not limited to, a description of the following: i. dams; ii. the geographic boundaries of the Project areas; d) transportation corridors (specify if existing or new builds), including access roads, transmission lines and railway; e) water supply source(s) and associated infrastructure to support iron ore production, including water control structures, settling ponds, diversions and/or pump stations that may be required to facilitate the Project; f) worker accommodations and all associated infrastructure including potable water and wastewater systems; g) land use zoning and interactions with Project components for communities with Municipal Planning Areas, Municipal Plans, and Development Regulations in legal effect; and h) known existing contaminated sites within and near the Project study area. Geographic Information System (GIS) files shall be submitted for the physical features of the Project.	Chapter 2 (Project Description), Section 2.8	No comments

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
Construction		
Construction activities (including permanent and temporary infrastructure related to physical features) shall be described, including, but not limited to, the following: a) construction planning and development schedule; b) site preparation, clearing, blasting, etc., for the installation of i. mine pits including dimensions, methods and access roads; ii. process plant and ancillary buildings, structures and infrastructure; iii. tailings management facility including dams; iv. water management infrastructure; v. worker accommodations and infrastructure; vi. stockpiles; vii. access roads, transmission lines and railway; c) sources, predicted decibel levels and duration of noise, including noise during blasting; d) sources of light emissions; e) construction and establishment of Project structures and infrastructure in protected public water supply areas; f) the timing and duration of the construction period for in-water works, including whether installation of infrastructure is required, such as water withdrawal piping, culverts, dams or bridge structures; g) Project components for in-water works, such as placement of water crossing infrastructure, water withdrawal infrastructure, fording, removal of aquatic and/or stream side vegetation, infilling, water withdrawal, in-water site isolation, dewatering, water use activities, and changes to natural flow regime; h) transport, storage, and use of all hazardous materials, fuels and lubricants required during construction, including a description of best management practices for the storage of waste dangerous goods/hazardous waste; i) location of any proposed primary and alternate quarry sites, including boundaries, which may need to be developed to supply materials to the Project; j) estimated quantities of quarry materials that are or may be required for the Project; including for road construction and upgrading, the preparation of laydown areas, and any other Project uses; k) details of quarry materials exploration or testing activities and blasting that may be required to evaluate quarry materials in advance of developing a new quarry site for the Project or in evaluating materials at an existing quarry site, including any associated access road crossing infrastructure that may need to be installed or any existing infrastructure that may need to be upgraded; l) waste rock or quarry materials proposed for use during construction shall be characterized for potential Acid Rock Drainage and Metal Leeching (ARD/ML), as well as Naturally Occurring Radioactive Materials (NORM) risks; m) all heavy equipment to be used during construction and an estimate of all emissions during construction; n) projected annual greenhouse gas (GHG) production by type, annual energy consumption by type (i.e., on-site stationary combustion, on-site electricity generation and mobile transportation but excluding purchased electricity generated off-site), and associated annual GHG emissions by source;	– Chapter 1 (Introduction), Section 1.4.2 (q) – Chapter 2 (Project Description, Sections: – 2.9.1 (a, b, e, f, g, h, j, k, m) – 2.6.2 (l) – 2.6.3.3 (i) – 2.11.2 (c,d,m,n,o,p) – Chapter 5 (Air Quality and Climate) (m,n,o,p) – Chapter 6 (Noise, Vibration and Light) (c,d,)	Detailed information on estimated Project emissions and energy consumption is presented in EIS Chapters 5 and 6.

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
o) identification of any non-combusted and industrial process emissions at the site; p) annual energy consumption by type and annual GHG emissions by source for activities outside the Project boundary such as on-road, air and marine transportation, solid waste, and significant purchased services from providers outside the Project boundary; and q) list of development permits required from a Municipal Authority within a Planning Area as established under the ***Urban and Rural Planning Act*** for the development of Project components and support components within a Planning Area.		
Operation and Maintenance		

All aspects of the operation and maintenance procedures for the undertaking shall be described in this section of the EIS, including, but not limited to, the following:
a) details of each phase of operations (if the Project will be developed in phases)
b) description of any regulatory requirements related to the incremental development of the Project, requiring the Proponent to demonstrate that the Project is being conducted in an environmentally acceptable manner prior to increasing production
c) mine pit dimensions;
d) dewatering requirements;
e) stockpiles, overburden areas, waste rock piles, water management infrastructure, and tailings management facility dimensions;
f) sources and predicted vibrations, decibels, duration, and geographic reach of noise, including long-term, low frequency noise emissions;
g) sources of lighting emissions;
h) chemicals to be used in operations;
i) standard operating procedures for process plant;
j) proposed water source(s), estimated daily and annual volume of water quantity and water quality requirements, and any treatment needed including how water will be cleaned and where water treatment will be undertaken;
k) other water withdrawal requirements and sources during Project operation;
l) water crossing infrastructure maintenance;
m) activities within a Protected Public Water Supply Area;
n) characterization of wastewater effluent from ore production, estimation of annual volume of effluent discharge, description of treatment required for effluent to meet regulatory standards for discharge, and a description of the receiving environment for wastewater discharged;
o) procedures for regular source water and wastewater quality and quantity monitoring including a list of surface water collections systems (i.e., collection ditches, check dams, sediment control features, etc.);
p) procedures for regular ambient climate, water quantity and quality monitoring;
	– Chapter 1 (Introduction), Section 1.4 (b)
	– Chapter 2 (Project Description), Sections:
	  – 2.6.3.3 (bb)
	  – 2.8 (c,e,h,l,j,k,l,m,n,o,s,t,aa,cc)
	  – 2.9.2 (a,d,j,m,r,t)
	  – 2.11.2 (f,g,n,q,v,w,x,y,z)
	– Chapter 3 (Project Alternatives), Section 3.1 (u)
	– Chapter 5 (Air Quality and Climate) (q,v,w,x,y,z)
	– Chapter 6 (Noise, Vibration and Light) (f,g)
	– Chapter 8 (Surface Water) and TSD VI (n)
	– Annex 5E (Environmental Effects Monitoring Program) and Annex 5H (Waste Management Plan) (o)
		Detailed information on estimated Project emissions, energy consumption and effluent is presented in EIS Chapters 5, 6 and 8 and TSD VI.

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
q) characterization and estimation of annual and daily atmospheric discharges from ore production, including detailed specifications and air emission estimates on the emergency back-up power generation; r) best management practices for the storage of waste dangerous goods/hazardous waste; s) transport of ore from the production facility to markets; t) transport, storage, and use of all hazardous materials, fuels and lubricants required during operations and maintenance, including a description of best management practices for the storage of waste dangerous goods/hazardous waste; u) market intentions for all end products; v) energy use, including amount and frequency of energy and capacity to be provided to or from the electrical grid, and energy buffering needs; w) estimates of fuel consumption, GHG emissions associated with fuel combustion, and GHG emissions from any non-combusted and industrial process sources at the facility, by source per year of operation; x) volume of carbon dioxide sequestered by year of operation including how it will be calculated, monitored and estimated. y) identification, by year or appropriate multi-year period, of the volume of carbon dioxide emissions that may be emitted and sequestered on-site, be emitted and exported to a separate site for sequestration, and may be purchased off-site and sequestered on-site; z) annual energy consumption by type and annual GHG emissions by source for activities outside the Project boundary such as on-road, air and marine transportation and purchased electricity (i.e., from Newfoundland and Labrador Hydro), solid waste, and significant purchased services from providers outside the Project boundary; aa) details on any proposed primary and alternate quarry sites, including boundaries, which may need to be developed to supply materials to the Project; bb) waste rock or quarry materials proposed for use during operations shall be characterized for potential ARD/ML, as well as NORM risks; and cc) site security and management of public access to Project components.		
Decommissioning and Rehabilitation		
The EIS shall predict the lifespan of the undertaking and present an approach for decommissioning, which sets out a commitment from the Proponent to address: a) expected useful life of major Project infrastructure and life cycle management plans for such infrastructure; b) proposed decommissioning schedule and activities, including dismantling and removal of infrastructure and facilities (e.g., process mill, access roads, transmission lines, collection ditching, and water crossing infrastructure) and site rehabilitation, including a seed collection schedule and a revegetation plan for all disturbed areas; c) decommissioning of tailings management facility and water management infrastructure; d) decommissioning and rehabilitation of above ground and underground storage facilities associated with the Project	– Chapter 2 (Project Description), Sections: – 2.9.3 (a,b,c,d,g) – 2.11.2 (e,f) – Chapter 5 (Air Quality and Climate) (e,f)	Detailed information on estimated Project emissions, energy consumption and effluent is presented in EIS Chapter 5

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
e) estimates of fuel consumption, GHG emissions associated with fuel combustion, and GHG emissions from any non-combusted and industrial process sources at the facility, by source per year during decommissioning and rehabilitation; f) estimates of annual energy consumption by type and annual GHG emissions by source for decommissioning and rehabilitation activities outside the Project boundary such as on-road, air and marine transportation, solid waste, and significant purchased services from providers outside the Project boundary; and g) decommissioning of industrial water supply.		
Regulatory Framework and Government Oversight		
The EIS shall provide a comprehensive list of permits and regulatory approvals (municipal, provincial, and federal) required for the undertaking. The list shall include, but not be limited to, the following details: – activity requiring regulatory approval; – name of permit, license or regulatory approval; – name of legislation applicable in each case; and – regulatory agency responsible for each permit, license, and approval.	Chapter 1 (Introduction), Section 1.4	
The EIS shall identify: a) government policies, resource management plans, and planning or study initiatives pertinent to the Project and/or the environmental assessment; b) regulations, codes, standards, guidelines and best industry practices applicable to mining projects. In cases where the Project is outside the scope of adopted codes/standards, the EIS shall identify the requirements that will maintain an equivalent level of safety; c) new/ongoing research, established and evolving developments in mining, production, storage, rehabilitation efforts, handling and transportation codes and standards; d) municipal or provincial land use plans, land zoning, community plans, protected road zoning plans and regulations, and describe the conformity of the undertaking to the requirements of those plans and regulations, while identifying issues of nonconformity and potential ways to mitigate; e) regional, provincial, and/or national objectives, standards, codes and/or guidelines that have been used by the Proponent to assist in the development of the EIS; and f) any governmental or non-governmental working groups or committees that provide guidance to municipal and or provincial bodies with respect to land use, ecological and recreational stewardship in the Project area.	Chapter 1 (Introduction), Section 1.4	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
The EIS shall evaluate whether the Environmental Emergency Regulations, 2019 (E2 Regulations) apply to the Project, and whether the Project meets the published reporting requirements of the National Pollutant Release Inventory (NPRI). The E2 Regulations can be found at https://www.laws-lois.justice.gc.ca/eng/regulations/SOR-2019-51/index.html. Technical guidelines for the E2 Regulations is available at https://www.canada.ca/en/environment-climatechange/services/environmental-emergencies-program/regulations/technical-guidelines.html. The NPRI can be accessed at https://www.canada.ca/en/environment-climatechange/services/national-pollutant-release-inventory/report.html - pollutant-release-inventory/report.html.	Chapter 2 (Project Description), Section 2.11.3 Chapter 5 (Air Quality and Climate), Section 5.5	Champion has reviewed Schedule 1 of the Environmental Emergency Regulations, 2019 and does not expect that the Project will be required to report. This will be reevaluated prior to the Operations phase once a complete list of substances and quantities to be stored on site is available.
3.0 ALTERNATIVES		
3.1 Alternatives to the Undertaking		
The EIS shall include a detailed analysis of the advantages and disadvantages to the environment of the undertaking as proposed; an analysis of the alternatives to the undertaking; and a summary with clearly described methods and sufficient information to justify the selection of the preferred alternative, as well as an explanation for rejecting other alternatives. This section shall include a comparative analysis of the environmental effects and technical and economic feasibility of alternatives that led to the selected Project alternative. The Proponent shall consider describing: a) functionally different methods of meeting the Project need and achieving the Project purpose; and b) market and regulatory circumstances that may have influenced the preferred alternative.	Chapter 3 (Project Alternatives), Section 3.2	
3.2 Alternative Methods of Carrying Out the Undertaking		
The EIS shall identify and consider the environmental effects of alternative methods of carrying out the undertaking that satisfy the need for the undertaking. The preferred alternatives shall be identified with the selection based on clearly described methods. An explanation shall be included of how environmental factors affect the design and consideration of alternatives. The EIS shall provide the rationale for selecting Project components and shall discuss the state of the art of the various technologies being proposed. The EIS shall indicate known experience with, and effectiveness and reliability of the equipment, techniques, procedures, and policies, for each alternative, particularly under climate conditions in Newfoundland and Labrador and elsewhere, and their relation to best practice in Newfoundland and Labrador. The EIS shall analyze and compare the design alternatives for the Project in relation to their environmental and social costs and benefits, including those alternatives which cost more to build and/or operate but which cause less harmful environmental effects.	Chapter 3 (Project Alternatives), Section 3.3	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
The range of alternatives considered for the annual production and scale of the operation shall be discussed, and the chosen alternative justified. In describing alternative means of carrying out the Project, the Proponent may consider, but not be limited to, a discussion of the following: a) Sources of energy, including, but not limited to, the Newfoundland and Labrador power grid; b) Process plant sizes and types; c) Locations, land area requirements and access routes for process plant, including locating railroad transportation route and main access road outside protected public water supply areas; d) Water source(s) for the Project and downstream effects; and e) Order and timelines for construction and operational phases.		
4.0 ENVIRONMENT		
4.1 Key Issues		
To better focus the EIS, the Proponent shall identify the key issues related to the Project. The issues shall be revised and adjusted in relation to the information acquired in the field and during consultations held by the Proponent in the preparation of the EIS. The following factors shall be included in the selection of key issues: – Existing electrical infrastructure; – Water resources, including wetlands and permafrost; – Air quality; – Fish, fish habitat and fisheries; – Reptiles and amphibians; – Caribou (migratory and boreal), migratory birds, plants and SAR and related habitats; – Species and areas of importance to Indigenous Governments and Organizations; – Existing mining operations and planned expansions; – Accessibility of land for potential future mineral exploration and mining; – Indigenous Governments and Organizations and local communities, human health and quality of life; – Protected public water supply areas, public drinking water systems and water quality; – Socio-economic development in the area; – Parks and protected areas; – Heritage and cultural resources; – Economy, employment and business; and – Indigenous knowledge. The ensuing sections shall focus on the components relevant to the key issues and effects of the Project.	Chapter 4 (Effects Assessment Methodology), Section 4.3.1 Chapters 5 to 17 Chapter 22 (Engagement)	Key Issues are incorporated as a subsection in each technical discipline Chapter of the EIS (Chapters 5 to Chapter 17). Key issue raised during engagement on the Project are summarized in Chapter 22.

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
4.2 Existing Environment		
The EIS shall describe relevant aspects of the existing environment prior to implementation of the Project, which constitute the reference state of the environment. Using qualitative and quantitative surveys (where applicable), this section shall include a description of the existing bio-physical and socio-economic environment that will be affected or might reasonably be expected to be affected, directly or indirectly, by the undertaking with emphasis on the VECs.	The existing environment in each identified discipline is described in their respective chapters (i.e., throughout the fourth subsections of Chapter 5 to 17). Where applicable, each chapter provides detailed descriptions of the necessary qualitative and quantitative surveys required to establish baseline conditions.	
If the information available from government or other agencies is insufficient or no longer representative, the EIS shall complete the description of the environment by conducting original surveys and research according to generally accepted practices and local knowledge.	The data used to describe the existing environment in each identified discipline is indicated in their respective chapters (i.e., throughout the fourth subsections of Chapter 5 to 17). Where applicable, each chapter provides detailed descriptions of the necessary qualitative and quantitative surveys required to establish baseline conditions.	
The EIS shall provide the information required to understand or interpret collected data (e.g., methods, survey dates and times, weather conditions, location of sampling stations). The methods used shall be sufficient for the purposes of identifying and assessing the environmental effects.	The data used to describe the existing environment in each identified discipline is indicated in their respective chapters (i.e., throughout Chapter 5 to 17). Where applicable, each chapter provides detailed descriptions of the necessary qualitative and quantitative surveys required to establish baseline conditions to identify and assess environmental effects.	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
A description of the existing environment shall be developed for the Project and each alternative, drawing specific reference to the VECs. Detailed descriptions shall be developed for the following VECs: – Atmospheric environment; – Aquatic environment; – Terrestrial environment; – Land and resource use; – Heritage and cultural resources; – Communities; and – Economy, employment and business. VECs for each environmental component shall be described.	Chapter 5 (Air Quality and Climate), Section 5.4 Chapter 6 (Noise, Vibration and Light), Section 6.4 Chapter 7 (Groundwater), Section 7.4 Chapter 8 (Surface Water), Section 8.4 Chapter 9 (Fish and Fish Habitat), Section 9.4 Chapter 10 (Vegetation, Wetlands and Protected Areas , Section 10.4 Chapter 11 (Wildlife), Section 11.4 Chapter 12 (Heritage and Historical Resources), Section 12.4 Chapter 13 (Indigenous Land and Resource Use), Section 13.4 Chapter 14 (Other Land and Resource Use), Section 14.4 Chapter 15 (Economy and Employment), Section 15.4 Chapter 16 (Services and Infrastructure), Section 16.4 Chapter 17 (Community Health and Well-Being), Section 17.4 Annex 1 to 4 (Baseline Reports)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
4.2.1 Atmospheric Environment		
The EIS shall describe the relevant components of the atmospheric environment within the study area of the VECs, including, but not limited to, the following: a) Climate information, including monthly and annual minimum, maximum and mean values for precipitation, temperature and wind speed and prevailing wind direction ; b) Provincial climate change projections for Labrador West (Wabush); c) Indications of recent climate change observations and trends; d) Historical and current provincial GHG emissions including emissions specifically from the industrial sector; e) Ambient light, vibration and noise levels, including low frequency noise; f) Ambient air quality, including dust and particulate matter; and g) Existing weather monitoring in/near the study area of the Project.	Chapter 5 (Air Quality and Climate), Section 5.4 Chapter 6 (Noise, Vibration and Light), Section 6.4 Annex 1 (Atmospheric Baseline Reports)	
4.2.2. Aquatic Environment		
The EIS shall describe the relevant components of the aquatic environment within the study area of the VECs, including, but not limited to, the following: a) Protected public water supply areas, protected wellhead areas, unprotected public drinking water source areas; b) Industrial water supply availability and use; c) Surface and groundwater resources and locations, including identification of those resources planned to supply the mine and all infrastructure; d) Surface-water flow, groundwater movement and aquifer recharge zones, and the delineation of drainage basins, including wetlands, at appropriate scales; e) Hydrologic and hydrogeological assessment of the mine area and mine infrastructure, and all testing results for water quantity and quality, including metals; f) Commercial, recreational, and Indigenous fisheries; g) Characterization of fish populations by species and life stage affected by the Project including, but not limited to, a description of species under the **Species at Risk Act (SARA)**, NL **Endangered Species Act**, COSEWIC, or the Atlantic Canada Conservation Data Centre (ACCDC); h) An assessment of critical and sensitive habitats for spawning, nursing, rearing, feeding, and migration by fish species; and i) An assessment of work windows and sensitive times of the year (e.g., migration, feeding and spawning) which are critical for fish populations identified in the Project area.	Chapter 7 (Groundwater), Section 7.4 Chapter 8 (Surface Water), Section 8.4 Chapter 9 (Fish and Fish Habitat), Section 9.4 Chapter 10 (Vegetation, Wetlands and Protected Areas), Section 10.4 Annex 2 (Aquatic Environment Baseline Reports) Annex 3B (Vegetation and Wetlands Baseline Report and Baseline Addendum) TSD V (Hydrogeology Modelling Report) TSD VI (Water Balance and Water Quality Model)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
4.2.3. Terrestrial Environment		
The EIS shall describe the relevant components of wetlands and the terrestrial environment within the study area of the VECs, including, but not limited to, the following: a) Ecological land classifications, including wetlands and permafrost; b) Terrestrial flora and fauna, and fauna must include reptiles, amphibians and mammals and their wildlife habitats that are found or are likely to be found in the study areas; c) Geology (bedrock and surficial), geomorphology and geochemistry; d) Avifauna, including migratory birds protected by the ***Migratory Birds Convention Act, 1994*** (landbirds, and waterfowl) and species under provincial jurisdiction including raptors and upland game birds; e) SAR and Species of Conservation Concern and their habitats, including, but not limited to, the following: Common nighthawk, Peregrine falcon, Short-eared owl, Bank swallow, Harlequin duck, at least five species of bats, and numerous plants. Also, including designated critical habitat under the **Endangered Species Act** and **SARA** where applicable, and areas of conservation concern (e.g., environmentally sensitive areas, such as national, provincial, and regional parks and reserves, EBSAs; f) Protected areas, conservation agreement lands and habitat enhancement projects); and g) Human-wildlife interactions.	Chapter 7 (Groundwater), Section 7.4 Chapter 10 (Vegetation, Wetlands and Protected Areas), Section 10.4 Chapter 11 (Wildlife), Section 11.4 TSD XII (Geochemical Characterization Report Phase II Static Testing) Annex 3 (Terrestrial Baseline Reports)	
4.2.4. Land and Resource		
The EIS shall describe relevant land and resource use within the study area of the VECs, including, but not limited to, the following: a) Existing electrical infrastructure; b) Existing railroad facilities; c) Current and historic land use for mining, mineral exploration, and quarrying activities, including the presence of known mineral occurrences of potential economic significance; d) Indigenous land and resource use; e) Domestic wood harvesting areas; f) Tourism generating resources and operators, outfitter/guiding operators, cabins, multi-use trails, and recreational activities (e.g., trails, scenic lookouts, natural attractions, hiking, hunting, fishing, swimming, berry picking, etc.); g) Unique sites (e.g., scenic lookouts, geoparks, etc.); h) Landscapes and viewscapes, including extent of developed and undeveloped land; i) Municipalities with municipal plans and development regulations; and j) Land tenure, including, but not limited to, the following: i. Crown lands; ii. Private land ownership;	Chapter 13 (Indigenous Land and Resource Use), Section 13.4 Chapter 14 (Other Land and Resource Use), Section 14.4 Chapter 17 (Community Health and Well-Being), Section 17.4 Annex 4C (Land Use and Socioeconomic Baseline Report) TSD X (Visual Aesthetics Impact Assessment)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
iii. Land tenure under the ***Quarry Materials Act***; iv. Land tenure under the ***Mineral Act***: mineral licenses, mining leases, exempt mineral lands under the ***Mineral Act***, recognized mineral occurrences and other areas that have been the focus of past mineral exploration efforts.		
4.2.5 Heritage and Cultural Resources		
The EIS shall describe relevant cultural and heritage resources in the study areas of the VECs, including, but not limited to, the following: a) Historic and archaeological resources including sites of archaeological potential to Indigenous peoples; b) Paleontological resources; c) Architectural resources; and d) Burial, cultural, spiritual and heritage sites.	Chapter 12 (Heritage and Historical Resources) Annex 4A (Historic Heritage Resources Baseline Report) Annex 4B (Cultural Heritage Screening Report)	
4.2.6. Communities		
The EIS shall describe relevant community elements, in jurisdictions with and without municipal plans and development regulations, including municipalities, local service districts, unincorporated communities, and Indigenous organizations/communities in the study area of the VECs, including the following: a) Population demographics and health status, including physical, mental, and social well-being; b) Family life, recreation, and culture; c) Education and training facilities and programs; d) Housing, accommodations, and property values; e) Fire and emergency services; f) Health care services including mental health and addiction services, social programs, and other community services; g) Services provided by non-profits and community-based organizations in the areas of mental health and additions, social services and other community services; h) Active municipal, governmental or non-governmental working groups or committees; and i) Municipal infrastructure or services to be used by the Project and the capacity of the infrastructure and services to support the Project, including human resources, equipment and training.	Chapter 16 (Services and Infrastructure), Section 16.4 Annex 4C (Land Use and Socioeconomic Baseline Report)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
4.2.7 Economy, Employment and Business		
The EIS shall describe relevant economy, employment and business elements in the study area of the VECs, including the following: a) Economy of the region; b) Value of existing industries, including tourism, cultural and recreational; mining, mineral and quarrying; commercial, recreational, and Indigenous fisheries and hunting; and other major employers; c) Employment in the region; d) Availability of skilled and unskilled labour in the region and in the province; e) Business capacity relative to goods and services; and f) Employment equity and diversity including under-represented groups.	Chapter 15 (Economy and Employment), Section 15.4 Annex 4C (Land Use and Socioeconomic Baseline Report)	
4.3 Baseline Studies		
Baseline studies shall be developed for specific components of the existing environment to provide a more detailed analysis of existing conditions in biophysical and socio-economic environments that could be affected by the Project, both in the immediate vicinity and beyond. Each baseline study shall be a stand-alone document which may be appended to the EIS upon submission, and the results of each study shall be included and referenced in the EIS. Where new information becomes available, additional baseline studies may be required. Baseline surveys shall be conducted in accordance with guidance provided by the jurisdictional authority(ies). This shall include the components of the existing environment and environmental processes, their interrelations and interactions, as well as their variability over time scales appropriate to the effects analysis. The level of detail shall be sufficient to: – Identify and assess any adverse environmental effects that may be caused by the Project; – Identify and characterize the beneficial effects of the Project; – Develop mitigation measures and follow-up monitoring programs where appropriate, to determine the effectiveness of mitigation measures; and – Provide the data necessary to enable effective follow-up for compliance with regulations and standards. Where appropriate and possible to do so, the EIS shall present a time series of data and sufficient information to establish the averages, trends, and extremes of the data that are necessary for the evaluation of potential environmental effects. For key environmental and social components, the Proponent shall consider how far back in time and how far into the future the study shall be conducted. Rationale for the temporal boundaries chosen shall be provided. Baseline studies generally have the following format: a) Rational/Objectives: In general, the baseline studies shall be conducted to obtain all required data for use in determining the potential for effects on one or more VECs as well as for monitoring and follow-up programs. b) Study Area: The boundaries of the study area shall be defined depending on the characteristics of one or more VECs being investigated.	Annex 1 to 4 (Baseline Reports) Annex 5B (Dam Safety Plan)	Raw baseline data files and geospatial data can be provided to appropriate regulatory agencies and departments upon request.

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
c) Methods: Methods shall be proposed by the Proponent and developed in consultation with resource agencies, as appropriate. The methods used in each baseline study shall be described in the EIS. d) Study Outputs: i. Study outputs shall be proposed by the Proponent. Information and data generated shall be sufficient to adequately predict the effects on one or more VECs and to determine monitoring and follow-up requirements; ii. All maps are to be presented using Geographic Information System (GIS) and associated shapefiles are to be provided in digital format; iii. Raw data shall be included in the Appendix in electronic tabular form and as digital geospatial data for GIS; and iv. Identification of all information sources. Baseline Studies shall be prepared for at least the following components of the existing environment: – **Atmospheric Environment:** Air Quality, Dust; Noise; Vibration; and Light. – **Aquatic Environment:** Water Resources and Use; Wastewater Discharge; Freshwater Fish and Fish Habitat; Commercial, Recreational and Indigenous Fisheries; and Dam Safety. – **Terrestrial Environment:** Wetlands, Permafrost; Avifauna; Flora; Fauna, Caribou (migratory and boreal), SAR and Relevant Habitat, Protected Areas, and Areas of Conservation Concern; and – **Land and Resource Use:** Traditional, Cultural, Recreational and Indigenous Land Use; Municipal Land Use, and Industrial Land Use.		
4.3.1 Atmospheric Environment		
The baseline study of the atmospheric environment shall be focused on, at a minimum, the following components: – air quality; – dust; – noise; – vibration; and – light. a) The EIS shall assess the predicted ambient air quality conditions resulting from air emission sources, and including particulates (e.g., diesel generators, heavy equipment, etc.) in the vicinity of the mine. The study shall compare the predicted air quality to acceptable standards and shall consider the effects of air quality on nearby human and animal receptors, including habitat quality. The effects of dust from the Project, may have an adverse effect on the receiving environment, including humans, wildlife and waterbodies. The EIS shall assess the fugitive / lift-off dust sources in the vicinity of the mine, including roads, laydown areas, stockpiles, etc. The baseline study shall compare the observed dust levels to acceptable standards and shall consider the effects of air quality on humans, wildlife and their migration routes,	Annex 1 (Atmospheric Baseline Reports) Chapter 5 (Air Quality and Climate) Chapter 6 (Noise, Vibration and Light)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
and waterbodies. The discussion shall include any impacts of the Project to local residents (e.g., dust on clothes hanging on clotheslines, protected drinking water supplies, etc.). b) The effects of noise from the Project, whether strong blasts of short duration or low level, long- term noise, may have an adverse effect on the receiving environment, including human perception of quality of life and effects on wildlife migratory corridors and connectivity between seasonal habitats. The baseline study shall assess and report on ambient noise conditions at the mine, including baseline ambient noise surveys. Information on typical sound sources, decibel levels, geographic extent and temporal variations shall be included. The baseline study shall compare observed noise levels to acceptable standards. c) Bright lights can affect humans and avian species, especially during periods of fog, drizzle, and haze. The baseline study shall describe ambient light conditions, including nighttime illumination levels during different weather conditions and seasons for the mine and at any other areas where Project activities could have an effect on light levels. The baseline ambient light conditions are needed to determine the potential impacts on residents and other sensitive receptors that might be affected.		
4.3.2 Aquatic Environment		
The baseline study of the aquatic environment shall be focused on, at a minimum, the following components: a) Water Resources and Use in the Project study areas; b) Wastewater Discharge; and c) Freshwater Fish, Fish Habitat and Fisheries.	Annex 2A (Aquatic Baseline Reports) TSD V (Hydrogeology Modelling Report) TSD VI (Water Balance and Water Quality Modelling Report)	
a) The baseline study will describe the relevant components of the water resources and wetlands within the study area of the mine, including, but not limited to, the following: i. Hydrological features such as watershed areas and the location of rivers and river inputs; ii. Surface and groundwater resources, surface-water flow, groundwater movement, base flow and aquifer recharge zones; iii. Areas where work will be undertaken within 15 metres of a waterbody, including wetlands, such as stream crossings, culverts, bridges, outfalls, infilling, etc.; iv. Development activities proposed within a Protected Public Water Supply Area. Survey of existing public, drinking water sources areas that may be affected, including watershed or recharge areas and characteristics; v. Water quality; vi. Discharge locations for the establishment of real-time surface and groundwater quality and quantity and climate monitoring stations in the watersheds potentially affected by the Project, to facilitate: the installation of real-time	Annex 2A (Surface Water Baseline Report) TSD V (Hydrogeology Modelling Report) TSD VI (Site Wide Water Balance and Water Quality Modelling Report)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
monitoring stations and collection of baseline data prior to the start of construction; plans for the long-term operation and maintenance of real-time monitoring stations in consultation with the Department of Environment and Climate Change (ECC); and measures to mitigate effects to surface water quality and quantity and predict adverse residual effects as well as address measures to be taken if water quality and quantity were to be affected by the Project and how real-time water monitoring stations will be used for this purpose; and vii. Hydrologic/Hydrogeologic assessment of the proposed mine area, including all testing results for quantity and quality, including metals. Hydrologic/Hydrogeologic assessment shall include, but is not limited to: a review of the geology of the Project area as it pertains to local and regional groundwater flow systems in the Project area; the physical and geochemical properties of hydrogeological units, such as aquitards; groundwater levels and a piezometric map for both shallow and deep groundwater regimes; identification of any preferential flow paths for groundwater (both shallow and deep); hydrogeologic maps and cross-sections for the Project area that outline the extent of aquifers, including stratigraphy, piezometric levels at different depths (to estimate) vertical hydraulic gradients and show confined aquifers) potentiometric contours, locations of wells, boreholes, springs, lakes and streams, groundwater flow direction; and evaluation of aquifer characteristics and discharge rates.		
b) The Project is proposing to discharge wastewater into the receiving environment. The baseline study shall characterize the wastewater, estimate the annual volume of effluent discharge, and describe the receiving environment for wastewater (i.e. details on the size of water (surface area, depth, volume), existing water quality, and water use).	Annex 2A (Surface Water Baseline Report) TSD VI (Water Balance and Water Quality Modelling Report)	
c) The Freshwater Fish, Fish Habitat and Fisheries component of this baseline study shall describe, at a minimum, fish communities, population levels, and quantitative biodiversity indices as well as quantification of habitats (e.g., spawning, nursing. etc.) and habitat distribution that have the potential to be affected by Project activities. The baseline study shall describe local commercial, recreational, and Indigenous fisheries to enable the direct and indirect, and temporary and permanent effects to be assessed. Information may be based on available published data, community consultations, and results of on-site baseline surveys. Available data shall be recent and applicable to this area (Western Labrador). Baseline surveys shall be conducted in accordance with direction provided by the Department of Fisheries, Forestry and Agriculture (FFA, Wildlife Division) and the Department of Fisheries and Oceans Canada (DFO) and shall be designed to: i. contribute to the development of mitigation measures to avoid noncompliance with the Fish and Fish Habitat Protection Provisions of the ***Fisheries Act***; ii. inform an offsetting plan to mitigate and compensate for the harmful impacts of the Project; iii. contribute to the development of a conceptual rehabilitation and closure plan; iv. provide necessary baseline data to support on-going monitoring programs that assess the effectiveness of mitigation measures and	Annex 2B (Fish and Fish Habitat Baseline Report) TSD IX (Fish and Fish Habitat Offsetting Plan)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
v. characterize fish communities, provide quantitative biodiversity indices for fish, population levels and quantify fish habitats and their distributions (e.g., spawning, nursing, etc.) where Project activities have the potential to harm fish and/or fish habitat (i.e., Project footprint, upstream and downstream); vi. classify and quantify fish habitat (including distribution), as per the Standards Methods Guide for the Classification/Quantification of Lacustrine Habitat in Newfoundland and Labrador; and Standards Methods Guide for the Classification and Quantification of Fish Habitat in Rivers of Newfoundland and Labrador for the Determination of Harmful Alteration, Disruption or Destruction of Fish Habitat (Draft). Available at https://waves-vagues.dfo-mpo.gc.ca/librarybibliotheque/242052.pdf; vii. enumerate stream discharge measurements and water quality parameters upstream and downstream of affected water bodies; and viii. list any rare fish species that are known to be present.		
4.3.3. Terrestrial Environment		
The baseline study of the terrestrial environment shall be focused on, at a minimum, the following components: a) Avifauna, Avifauna SAR, Caribou (migratory and boreal), and Relevant Habitat; b) Flora and Fauna, including SAR; c) Areas of Conservation Concern; d) Wetlands; and e) Permafrost.	Annex 3 (Terrestrial Baseline Reports)	
4.3.4. Land and Resource Use		
The baseline study of land and resource use shall focus on, at a minimum, the following components: a) Traditional, Cultural, Recreational and Indigenous Land Use; b) Municipal Land Use; and c) Industrial Land Use.	Annex 4C (Land Use and Socio-Economic Baseline Report)	
5.0 DATA GAPS		
The EIS shall explain any extrapolation, interpolation or other manipulation applied to the baseline data used to describe environmental conditions in the study area. Any information gaps from a lack of previous research or practice shall be described indicating information that is not available or existing data that cannot accurately represent environmental conditions in the study area over four seasons. Previous research shall be relevant both temporally and spatially. If data gaps remain, the EIS shall describe its efforts to resolve the data gaps, including any direct consultation with governments, potentially affected Indigenous Governments and Organizations, non-government organizations, the public and others.	Described in the Baseline Study Reports (Annexes 1-4) and within the existing environment sections (#.4) of EIS technical assessment chapters (Chapters 5 to 17).	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
6.0 ENVIRONMENTAL EFFECTS		
6.1 Predicted Future Condition of the Environment if the Undertaking Does Not Proceed		
The EIS shall describe the predicted future condition of the environment within the expected life span of the Project if the Project were not to proceed. The predicted future condition of the environment shall help to distinguish Project related effects from environmental change due to natural processes.	Information is described within the existing environment sections (#.8) of EIS technical assessment chapters (Chapters 5 to 17).	
6.2 Predicted Environmental Effects of the Undertaking		
The EIS shall contain a comprehensive analysis of the predicted environmental effects of each Project alternative for the VECs. The assessment shall include, but not be limited to, the predicted effects of any environmental change on health and socio-economic conditions and heritage values and on the current and future use of land and resources by the public and members of Indigenous Governments and Organizations. If the effects are attributable to a particular phase of the Project (construction, operation and maintenance, decommissioning and rehabilitation), to a particular component, or to accidents or malfunctions, then they shall be designated as such. Predicted environmental effects (positive and negative, direct and indirect, and short and long-term) shall be defined qualitatively and quantitatively, where applicable, for each Project alternative and for each VEC. Environmental-effects predictions shall be explicitly stated and the theory or rationale upon which they are based shall be presented in terms of the following parameters: – Nature; – Magnitude (qualitative and quantitative); – Geographic (spatial) extent; – Timing, duration and frequency; – Degree to which effects are reversible or can be mitigated; – Ecological context; – Level of knowledge; – The capacity of renewable resources that are likely to be significantly affected by – The Project, to meet the needs of present and future generations; – The extent to which biological diversity is affected by the Project; and – The extent of application of the precautionary principle to Project mitigation measures.	Chapter 4 (Effects Assessment Methodology) outlines the effects assessment methodology applied to the effect assessment of each identified VEC. The effect assessment of each VEC is provided in the Effects Assessment Section (#.5) of EIS technical assessment chapters (Chapters 5 to 17).	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
a) **Atmospheric Environment** - the effects of the Project on GHG emissions shall be analyzed in this section of the EIS. The federal and provincial governments have each committed to reductions in GHG emissions by 2030 (i.e., a federal reduction target of 40-45 percent below 2005, and a provincial reduction target of 30 percent below 2005 levels) and to net zero GHG emissions by 2050. A GHG analysis is required because total annual direct Project emissions (i.e., emissions before sequestration activities) will result in an increase in provincial GHG emissions totals. GHG emissions, both within and outside the Project boundary, will be subject to carbon pricing regulations. Further information on emission levels, performance, and reporting requirement can be found in the ***Management of Greenhouse Gas Act*** (MGGA) and its regulations. If the facility emits at least 15,000 tonnes of GHG emissions per year within the Project boundary, it will be regulated under section 4 of the MGGA and may be regulated under either section 5 or 5.1 of the MGGA and the Management of Greenhouse Gas Regulations. Further, if the facility has the potential to emit 15,000 tonnes of GHG emissions per year, it will be subject to best available control technology (BACT) requirements for activities inside the Project's boundary as outlined in section 12.1 of the Regulations. With respect to section 12.1, the EIS shall include a BACT study/analysis where the EIS demonstrates the Project will employ BACT. A range of machinery and equipment options shall be proposed that are technically and economically feasible and reduce or minimize GHG emissions within the context of other regulatory requirements such as air pollutant, occupational health and safety, and fire and life safety regulations, and identify the recommended approach. The BACT study shall focus on direct GHG emissions (i.e., before sequestration) as well as net GHG emissions (i.e., including sequestered carbon dioxide). Either as part of the BACT analysis or separately. . The EIS shall provide details on projected annual production by type, annual energy consumption by type during construction, operation and maintenance, decommissioning and rehabilitation phases (i.e., on-site stationary combustion, onsite electricity generation and mobile transportation but excluding purchased electricity generated off-site), and associated annual GHG emissions by source during construction, operation and maintenance, decommissioning and rehabilitation phases. The EIS shall further identify any non-combusted and industrial process emissions at the site. Additionally, the EIS shall identify, by year or appropriate multi-year period, the volume of carbon dioxide emissions that may be emitted and sequestered on-site, be emitted and exported to a separate site for sequestration and may be purchased off-site and sequestered on-site The above information will determine whether the facility will be regulated under the MGGA (sections 4 and 5) and its regulations, and specifically whether it will be subject to BACT requirements of the Management of Greenhouse Gas Regulations (section 12.1). If GHG emissions within the Project boundary are not regulated under a performance standard pursuant to the MGGA (section 5 or 5.1), and the Management of Greenhouse Gas Regulations (section 3), GHG emissions from fuel combustion will be subject to the Federal Fuel Charge.	Chapter 5 (Air Quality and Climate), Section 5.5 Chapter 6 (Noise, Vibration and Light), Section 6.5 TSD IV (Best Available Controls Technology Study Report)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
The effects of the Project on provincial GHG emissions levels shall be assessed for all phases of the Project and mitigation measures proposed to minimize GHG emissions during the operations phase of the Project. This assessment shall account for loss of carbon sinks due to land clearing (e.g., deforestation). Annual estimates of production, energy consumption by type and associated combusted and non- combusted GHG emissions by source, and carbon dioxide sequestered for all phases of the Project shall be provided as described in the Management of Greenhouse Gas Reporting Regulations and, as appropriate, the Western Climate Initiative reporting methodology (2010) and A Guidance Document for Reporting Greenhouse Gas Emissions for Large Industry in Newfoundland and Labrador (2017). GHG emissions for activities outside the Project boundary shall be reported separately from GHG emissions inside the Project's boundary. GHG emissions shall be measured as tonnes of carbon dioxide equivalent per year as per section 4 and Schedule C of the Management of Greenhouse Gas Reporting Regulations. Other air pollutants, with particular emphasis on dust, that could adversely affect the surrounding land, water, vegetation, wildlife and people, shall be assessed. The effects of the Project on light, vibration and noise levels, including low frequency noise shall be assessed.		
b) **Aquatic Environment** - Effects of the Project on surface water bodies, wetlands, permafrost and groundwater aquifers, including, but not limited to, the following: i. Water bodies including: – description of the duration, frequency, magnitude and spatial extent of any effects to nearby surface and groundwater quality and quantity resulting from Project activities, including potential effects on recreational and other users of nearby surface water and groundwater aquifers (e.g., ice cover on nearby lakes); – estimation of water inflows into the open pits and withdrawal rates from the open pits; – assessment of a hydrological budget, including runoff, evapotranspiration and recharge rates under the various operation phases of the mine; – effects of water withdrawal and/or dewatering for the mine and associated infrastructure and other activities on surface- water flow, groundwater movement and aquifer recharge zones; – effects of water withdrawal for the open pit on known contaminated sites; – effects of the mine and associated infrastructure on water quality and quantity in protected public water supply areas, protected wellhead areas, unprotected public drinking water source areas, and private water sources; – effects of wastewater discharge and any treatment needed for the mine or other desired use, on the receiving environment; and	Chapter 7 (Groundwater), Section 7.5 Chapter 8 (Surface Water), Section 8.5 Chapter 9 (Fish and Fish Habitat), Section 9.5 Chapter 10 (Wetlands, Vegetation, and Protected Areas), Section 10.5 TSD V (Hydrology Modelling Report) TSD VI (Water Balance and Water Quality Modelling Report) TSD VII (Selenium Site-Specific Water Quality Objectives Modelling Summary) TSD VIII (Cobalt Site-Specific Water Quality Objectives Modelling Summary)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
– capacity of the receiving environment to manage wastewater discharge from the mine and all infrastructure related to the mine (e.g., workers accommodations). ii. Fish and fish habitat, including critical and sensitive times and habitats, shall be assessed for all phases of the Project. The EIS shall describe the potential environmental effects on fish habitat and fish populations by species including species of special concern, threatened and endangered species, and rare species associated with, but not limited to, the following: – work windows and sensitive times of the year (e.g., migration, feeding and spawning) which are critical for fish populations identified in the study area; – Project facilities or infrastructure including, but not limited to, primary and ancillary buildings and structures associated with the mine, site preparation, blasting, access roads, transmission lines and substations; surface and groundwater management activities; water use / water withdrawal during operations, and turbidity, siltation and other contamination from surface runoff and slope movement; – in-water works such as: fording; removal of aquatic and/or stream side vegetation; installation, maintenance and removal of culverts, bridges, dams, water crossing infrastructure, and water withdrawal structures; – infilling; in-water site isolation; water withdrawal; dewatering; and changes to natural flow regime; – adverse effects to fish and fish habitat due to Project-related construction and operational activities; and – effects on existing and potential commercial, recreational, and Indigenous fisheries.	TSD IX (Fish and Fish Habitat Offsetting Plan) TSD XII (Geochemical Characterization Report Phase II Static Testing)	
c) **Terrestrial Environment –** describe the potential effects of the Project on flora and fauna including bats, plants, migratory birds, birds protected by the MCBA, caribou (migratory and boreal), SAR and of conservation concern, and their habitat (including critical, sensitive and rare habitat), associated with, but not limited to, the following: i. Direct and indirect effects of Project activities during the construction, operation and maintenance, decommissioning and rehabilitation phases; ii. interactions with mine operations, including estimated mortality rates; iii. emissions, discharges and releases of substances; iv. land disturbance that has the ability to act as temporary habitat for SAR and species of conservation concern; and v. noise, vibrations and light, and in particular effects on feeding, breeding, movement and migratory patterns.	Chapter 10 (Vegetation, Wetlands and Protected Areas, Section 10.5 Chapter 11 (Wildlife), Section 11.5	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
d) **Land and Resource Use** – describe the potential effects of the Project on land use and tenure, including, but not limited to, the following: i. Land use and tenure, including: – mining, mineral exploration, and quarrying activities, and land accessibility for future mining, mineral exploration, and quarrying activities, including accessibility of land for future exploration of iron ore resources in Labrador West; – land tenure under the ***Mineral Act*** and ***Quarry Materials Act***, including potential restrictions for Project development associated with existing land tenure; – Crown land tenure and private land ownership and potential restrictions for Project development associated with existing land tenure; – Indigenous land and resources use; – municipal zoning and development control; – tourism establishments and operations; and – vibrations from mine operations on existing land and facilities and operations. ii. Effects of the Project on existing electrical infrastructure and the potential implications for the overall provincially and regionally interconnected transmission system, including, but not limited to, the following: – through continued engagement with NL Hydro provide: summary of results for system impact studies undertaken by NL Hydro including factors such as effects on cost and access to electricity for provincial residents, details on how transmission infrastructure costs will be recovered under the principles of NL Hydro's Network Additions Policy (or as Specifically Assigned Assets which are for the sole benefit of the Project), and details related to the reliability and operating effects of the Project on the existing electrical system; – details regarding the geographical footprint and routing to assess proximity to existing infrastructure and any consequential risk of interference; and details on when the Project would require access to transmission resources, including any curtailment considerations and the effect on other customers, both during the period before the mine is operational and over the longer term. Ongoing consultation with NL Hydro shall occur for the above requirements, as needed, in the planning for this Project.	Chapter 13 (Indigenous Land and Resource Use), Section 13.5 Section 14.5 (Other Use of Land and Resources), Section 13.5 Section 16.5 (Services and Infrastructure), Section 16.5	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
e) Communities – effects of all phases of the Project on human health and quality of life, including, but not limited to, the following: i. Human health and quality of life, including, but not limited to: – vibrations, noise emissions and noise levels, including sustained low frequency noise; – light emissions including night lighting; – dust and air emissions, including atmospheric dispersion modelling of air emissions from the Project and the results compared to acceptable standards; – wastewater; – private, semi-public and public drinking water systems; – domestic wood cutting areas; – traditional, cultural and recreational activities; – Indigenous activities; – developed areas; and – viewscapes. ii. The boomtown effects of the Project on community health and services, including, but not limited to: – food security; – employment and employment equity and diversity including underrepresented groups; – business capacity relative to goods and services; – housing, accommodations and property values; – health care and community services, including mental health and addiction services and social programs; – fire and emergency services; – education and training services and facilities; – effects on Indigenous Governments and Organizations; – municipal infrastructure or services to be used by the Project and the capacity of the infrastructure and services to support the Project; and – green spaces.	Chapter 5 (Air Quality and Climate), Section 5.5 Chapter 6 (Noise, Vibration and Light), Section 5.6 Chapter 12 (Heritage and Historical Resources), Section 12.5 Chapter 13 (Indigenous Land and Resource Use), Section 13.5 Chapter 14 (Other Use of Land and Resources), Section 14.5 Chapter 15 (Economy and Employment), Section 15.5 Chapter 16.5 (Services and Infrastructure), Section 16.5 Chapter 17 (Community Health and Well-being), Section 17.5 TSD XI (Human Health Risk Assessment) TSD X (Visual Aesthetics Impact Assessment)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
6.3 Accidents and Malfunctions		
The EIS will identify and describe the potential accidents and malfunctions related to all components of the Project, including an explanation of how those events were identified, potential consequences (including the potential environmental effects), the worst-case scenarios as well as emergency scenarios that can reasonably be expected to occur, and the effects of these scenarios. The EIS will explain the potential quantity, mechanism, rate, form, and characteristics of the materials likely to be released into the environment during the malfunction and accident events. Potential accidents and malfunctions may include, but not be limited to, the following occurrences: a) accidental spills and/or releases of chemicals, pesticides or any potentially hazardous substance on land or in air or water; b) fire and explosions; c) traffic accidents; d) failure of water supply; e) energy generation/transmission failure; f) wildlife emergencies/incidents (e.g., bird mortality event(s) of 10 or more birds in a single event, or an individual SAR during a single event due to collisions with or attraction to Project infrastructure); and g) breach of tailings management facility or other water management infrastructure such as dams and dikes (flooding). The EIS shall assess the likelihood of occurrence and consequence severity of the accidents and malfunctions. Given the potential for accidents and malfunctions, the EIS shall include how accidents and malfunctions would be treated and communicated to the local communities and Indigenous communities (e.g., notification, response, resolution) and measures that will be undertaken to prevent a re-occurrence of an accident or malfunction.	Chapter 18 (Accidents and Malfunctions) Annex 5B Dam Safety Plan	
6.4 Cumulative Environmental Effects		
The EIS shall identify and assess the Project's cumulative environmental effects. Cumulative effects are defined as changes to the environment and resident species and their habitat in the area due to the Project and combined with the effects of past, present, and reasonably foreseeable future planned projects and/or developments and activities. in the area. A project causes a cumulative effect if the potential impacts associated with the undertaking will cause an additive effect when added to other projects in the region and in consideration of climate change. A comprehensive examination of all cumulative effects within the study area shall be included. The EIS shall consider the cumulative environmental effects for the life of the Project and after decommissioning and rehabilitation, including impacts on flora and fauna, where those overlap with the effects of other projects and activities within or near the study area. Boundaries for assessing the cumulative effects of the Project in combination with other projects and activities that have been or will be carried out will generally be different from (larger than) the boundaries for assessing the effects of the Project, and shall: a) identify and justify the environmental components that will constitute the focus of the cumulative effects assessment, including, but not limited to, mining operations and supporting infrastructure, water resources, quarries, permanent and	Chapter 4 (Effects Assessment Methodology), provides information on the methods for assessing cumulative effects for VECs. The cumulative effects assessment of each VEC is provided in the Effects Assessment Section (#.5) of EIS technical assessment chapters (Chapters 5 to 17).	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
temporary dwellings including existing cabins and temporary accommodations such as "tilts" put up by Indigenous people, existing contaminated sites, outfitters/guides and trails, (e.g., Duley Lake Provincial Park, Wahnahnish Lake protected public water supply area, Dust on Towns of Labrador City and Wabush, recreational users in area). The Proponent's assessment shall emphasize the cumulative effects on the main VECs that could potentially be most affected by the Project; b) present a justification for the geographic and temporal boundaries of the cumulative effects assessment; c) describe and justify the choice of projects and selected activities for the cumulative effects assessment, including blasting activities during construction and maintenance of the Project; d) describe the mitigation measures and determine the significance of the residual cumulative effects; and e) where appropriate demonstrate how Indigenous knowledge was incorporated in the above requirements for the cumulative effects analysis. The cumulative effects assessment shall include consideration of cumulative effects in relation to the ability of Indigenous Peoples to exercise their interests and culture. Both the content and means of presenting this information is to be developed in consultation with each potentially impacted Indigenous Government and Organization. Proponents shall consult Indigenous Governments and Organizations in assessing the cumulative impacts of the Project on the interests of Indigenous Peoples. Historically, the George River Caribou Herd has used the study area thus migratory caribou shall be given special consideration for analysis of cumulative impacts and how the precautionary principle was applied in the EIS.		
6.5 Effects of the Environment on the Project		
Environmental changes and hazards that may occur and may affect the Project shall be described (e.g., wind, severe precipitation events, flooding, etc.). The EIS shall take into account the potential influence of climate change scenarios (e.g., increased severity and frequency of storms and flooding, changes to precipitation quantity and recharge rates), as well as local knowledge. The influence that these environmental changes and hazards may have on the Project, shall be predicted and described. The environmental effects that may occur as a result of the environment acting on the Project shall be assessed. Provincial climate change projections for Labrador West (Wabush) shall be considered in the planning for this Project.	Chapter 19 (Effects of the Environment on the Project) provides an assessment of effects of the environment on the Project. Climate change has also been considered as part of modelling to support VEC effect assessments and as a cumulative effect, where applicable.	
7. ENVIRONMENTAL PROTECTION – MITIGATIONS AND PLANS		
7.1 Mitigations		
The EIS shall identify and discuss proposed measures that will be implemented to mitigate the significant adverse effects and enhance beneficial effects of the Project. The rationale for and effectiveness of the proposed mitigation and enhancement measures shall be discussed and evaluated. The EIS shall clearly identify and describe any changes to mitigate public and Indigenous concerns. The EIS, where possible, shall refer to similar situations where the proposed mitigation has proven to be successful.	Proposed mitigation measures for the VECs are integrated in the EIS Chapters 5 to 19 and are summarized in Chapter 20, Appendix 20A.	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
Mitigation failure shall be discussed with respect to risk and severity of consequence. The EIS shall identify who is responsible for implementing the mitigation measures and the system of accountability, including the obligations of contractors and subcontractors, monitoring, follow-up, and reporting. Mitigation measures shall be described for the effects identified in section 6.2 of the EIS during construction, operation and maintenance, decommissioning and rehabilitation. The implementation of best available technology and best management practices shall be described. Avoidance of environmental effects through implementation of scheduling and siting constraints and pollution prevention opportunities shall be considered Trade-offs between costs and predicted effectiveness of the mitigation measures shall be justified.		
a) **Atmospheric Environment -** The EIS shall include an analysis of BACT as it relates to GHG emissions. A range of machinery and equipment options shall be proposed that are technically and economically feasible and reduce or minimize GHG emissions within the context of other regulatory requirements such as air pollutant, occupational health and safety, and fire and life safety regulations, and identify the recommended approach. Either as part of the BACT analysis or separately, the EIS shall include a plan by which net zero GHG emissions may be realized or maximum GHG reductions will be otherwise realized by 2050. All potential Project air emissions shall be estimated (e.g., dust, particulates) and mitigation measures described. An emissions inventory table shall be included in the EIS, listing emission sources, operating periods, pollution control equipment, predicted stack concentration and total emissions. The measures to be implemented to mitigate the effects of light, vibration and noise levels, including low frequency noise on sensitive recipients shall be described.	– Chapter 5 (Air Quality and Climate), Section 5.5.2.1 and 5.5.3.1 – Chapter 6 (Noise, Vibration and Light), Section 6.5.2 – TSD IV (Best Available Controls and Technology Study Report)	A plan by which net zero GHG emissions may be realized or maximum GHG reductions will be otherwise realized by 2050 will be developed following submission of the EIS.
b) **Aquatic Environment -** The EIS shall describe measures that will be undertaken to mitigate the effects of Project operations on surface water bodies, wetlands, permafrost, and groundwater aquifers, in and adjacent to the Project area, including, but not limited to, the following: i. Water bodies, including: – changes in nearby surface and groundwater quality and quantity resulting from water withdrawals from the Project, including potential effects on industrial and other users of nearby surface water and groundwater aquifers; – effects of water withdrawal on surface water flow, groundwater movement and aquifer recharge zones; – effects of water withdrawal for the mine on known contaminated sites;	Chapter 7 (Groundwater), Section 7.5.2 Chapter 8 (Surface Water), Section 8.5.2 Chapter 9 (Fish and Fish Habitat), Section 9.5.2 TSD V (Hydrogeology Modelling Report) TSD VI (Water Balance and Water Quality Model)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
– effects of the mine and associated infrastructure on water quality and quantity in protected public water supply areas, protected wellhead areas, unprotected public drinking water source areas, and private water sources; – effects of wastewater discharge from any treatment needed for the mine on receiving environment; – capacity of receiving environment to manage wastewater discharge from the mine; – effects of surface water collection and discharge on receiving environment; and – effects on existing and potential commercial, recreational, and Indigenous fisheries. ii. fish and fish habitat, including species of special concern, threatened and endangered species, and rare species associated with, the following: – work windows and sensitive times of the year (e.g., migration, feeding and spawning) which are critical for fish populations identified in the study area; – the construction and operation of Project facilities and infrastructure including, but not limited to, primary and ancillary buildings, site preparation, blasting, access roads and transportation corridors (railways), transmission lines and substations; surface and groundwater management activities; water use / water withdrawal during operations; and turbidity, siltation and other contamination from surface runoff and slope movement; – in-water works during construction such as: fording; removal of aquatic and/or stream side vegetation; installation, maintenance and removal of culverts, bridges, dams, water crossing and water withdrawal infrastructure; infilling; in-water site isolation; water withdrawal; dewatering; and changes to natural flow regime; – measures to mitigate flow changes resulting from water withdrawal, in water site isolation, dewatering activities, groundwater management, waste management, and upstream and downstream diversions; – measures to avoid possible death of fish and/or harmful alteration, disruption or destruction of fish habitat; and – measures for offsetting and strategies to compensate for the potential impacts of the Project, by maintain or improving the productivity in the proposed offsetting area.	TSD VII (Selenium Site-Specific Water Quality Objectives Modelling Summary) TSD VIII (Cobalt Site-Specific Water Quality Objectives Modelling Summary) TSD IX (Fish and Fish Habitat Offsetting Plan)	
c) **Terrestrial Environment -** The EIS shall describe measures that will be undertaken to mitigate the effects of all phases of the Project on flora and fauna (including bats, plants, migratory birds, birds protected by the MCBA, caribou (migratory and boreal), SAR and of conservation concern), and their habitat (including critical and sensitive habitat), associated with, but not limited to, the following i. direct and indirect effects of Project construction, operation and maintenance, decommissioning and rehabilitation; ii. emissions, discharges and releases of substances; iii. land disturbance that has the ability to act as temporary habitat for SAR and species of conservation concern;	Chapter 10 (Vegetation, Wetlands, and Protected Areas), Section 10.5.2 Chapter 11 (Wildlife), Section 11.5.2	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
iv. direct and indirect effects on individuals and habitat quality due to accidents and malfunctions during all Project phases; v. noise, vibrations and light, and in particular effects on feeding, breeding, movement and migratory patterns; and vi. describe how Indigenous Governments and Organizations were consulted to share Indigenous Knowledge regarding areas of importance and terrestrial wildlife species of importance to Indigenous peoples and how their concerns were addressed to develop mitigation strategies as needed, particularly for caribou populations and habitat.		
d) **Land and Resource Use -** Measures that will be undertaken to mitigate potential land use and tenure, including, but not limited to, the following: i. Mining, including: – mining, mineral exploration, and quarrying activities, and land accessibility for future mining, mineral exploration, and quarrying activities, including the accessibility of land for future exploration of iron ore resources in Labrador West; – existing land tenure, including, but not limited to, land tenure under the Mineral Act, and Quarry Materials Act, including restrictions for Project development associated with existing land tenure; – potential effects of existing mining operations on the Project, specifically, but not limited to, the effects of blasting from mining operations; – existing land tenure, including Crown land tenure and private land ownership and restrictions for Project development associated with existing land tenure (Appropriate title shall be obtained for any Crown lands required for this Project); – municipal zoning, permitted/discretionary use in designated zones, and permissibility of Project features that overlap municipal zones; – tourism establishments and operations; and – outdoor recreation. ii. Existing electrical infrastructure and the potential implications for the overall provincially and regionally interconnected transmission system, including: – through continued engagement with NL Hydro provide: summary of results for system impact studies undertaken by NL Hydro including factors such as effects on cost and access to electricity for provincial residents, details on how transmission infrastructure costs will be recovered under the principles of NL Hydro's Network Additions Policy (or as Specifically Assigned Assets which are for the sole benefit of the Project), and details related to the reliability and operating effects of the Project on the existing electrical system; – details regarding the geographical footprint and routing to assess proximity to existing infrastructure and any consequential risk of interference; and	Chapter 14 (Other Land and Resource Use), Section 14.5.2 Chapter 16 (Services and Infrastructure), Section 16.5.2	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
– details on when the Project would require access to transmission resources, including any curtailment considerations and the effect on other customers, both during the period before the mine is operational and over the longer term. Ongoing consultation with NL Hydro shall occur for the above requirements, as needed, in the planning for this Project.		
e) **Communities -** Measures to mitigate adverse effects of the Project on human health and quality of life, including, but not limited to, the following: i. Human health and quality of life, including: – dust and air emissions; – vibrations, noise emissions and noise levels, including sustained low frequency noise; – light emissions; – domestic wood cutting areas; – traditional, cultural and recreational activities including recreational and Indigenous fisheries, travel routes, wildlife harvesting areas and gathering places; – developed areas; – viewscapes; – private, semi-public or public drinking water; and – potential impacts on Indigenous people. ii. Community health and services, and Indigenous communities, including: – food security; – employment and employment equity and diversity including under-represented groups; – business capacity relative to goods and services; – housing, accommodations and property values; – health care and community services, including mental health and addiction services and social programs; – fire and emergency services; – education and training services and facilities; – municipal infrastructure and/or services to be used by the Project and the capacity of the infrastructure and services to support the Project; – green spaces; and – outdoor recreation and tourism.	Chapter 5 (Air Quality and Climate), Section 5.5.2.1 Chapter 6 (Noise, Vibration and Light), Section 6.5.2 Chapter 13 (Indigenous Land and Resource Use), Sections 13.5.2 Chapter 14 (Other Land and Resource Use), Section 14.5.2 Chapter 15 (Economy and Employment), Section 15.5.2 Chapter 16 (Services and Infrastructure), Section 16.5.2 Chapter 17 (Community Health and Well-Being), Section 17.5.2	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
7.2 Plans		

The EIS shall include plans, either in section 7.2 or as appendices to the EIS that describe procedures, equipment and responsibilities that are in place to ensure an efficient and effective response to aspects of the Project that could adversely affect the receiving environment, including, but not limited to, the following plans:
– Emergency Response/Contingency Plan, including Wildlife Response Plan,
– Waste Management Plan,
– Transportation Impact Study and Traffic Management Plan,
– Public Participation Plan,
– Indigenous Participation Plan,
– Workforce and Employment Plan,
– Benefits Agreement / Gender Equity, Diversity and Inclusion Plan,
– Domestic Wood Cutting Consultation Plan,
– Erosion and Sediment Control Plan,
– Dam Safety Plan, and
– Environmental Effects Monitoring Programs (EEMPs):
  – Groundwater and Surface Water Monitoring Program,
  – Real-time Water Quality Monitoring Program, and
  – Avifauna Mitigation and Monitoring Program.
Plans shall be updated periodically (where appropriate) as living documents with input from government departments / agencies, the public and members of Indigenous Governments and Organizations
	Section 20.5 (Environmental Management Plans)
	
	Annex 5 (Management Plans)
		The Public Participation Plan, Indigenous Participation Plan and Domestic Wood Cutting Consultation Plan requirements are captured in the Kami Engagement Plan (Annex 5G)
		
		Champion will develop and submit the Workforce and Employment Plan, Gender / Equity, Diversity and Inclusion Plan and Transportation Impact Study and Traffic Management Plan following the submission of the EIS.
		
		All plans are considered preliminary and will be updated following consultation and coordinate with applicable departments.

7.2.1 Emergency Response / Contingency Plan		
The EIS shall include an Emergency Response / Contingency Plan outlining procedures to respond to accidents, malfunctions and emergencies, including, but not limited to, the following: a) accidental spills and/or releases of chemicals, pesticides or any potentially hazardous substance on land or in air or water; b) fire and explosion; c) traffic accidents (road and railway); d) hurricanes and other natural disasters; e) occupational hazards and human injuries; f) failure of industrial water supply;	Annex 5B (Dam Safety Plan) Annex 5C (Emergency Response Plan)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
g) energy generation/transmission failure; h) flaring and/or venting of gases in the event of a malfunction; i) wildlife emergencies/incidents; j) impacts to private, semi-public or public drinking water systems; and k) breach of tailings management facility or other water management infrastructure such as dams and dikes. The Emergency Response / Contingency Plan shall establish an emergency communication strategy with those potentially affected and shall describe the capacity of the Proponent / nearby communities to respond to each type of accident, malfunction, or emergency, including the availability of required response equipment and training.		
7.2.2 Waste Management Plan		
The EIS shall include a Waste Management Plan that shall describe all liquid and solid waste (e.g., hazardous waste, landfills, waste rock, tailings waste, etc.) expected to be generated during construction, operation and maintenance, decommissioning and rehabilitation for all components of the Project, and methods to reduce, reuse, recycle, recover, and/ or manage residual wastes through disposal.	Annex 5H (Waste Management Plan)	
7.2.3 Transportation Impact Study and Traffic Management Plan		
The EIS shall include a Transportation Impact Study and Traffic Management Plan that shall assess and report on the potential effects of transporting oversized mining equipment and trucks over existing roadways, during construction, operation and maintenance, decommissioning and rehabilitation phases of the Project, that includes, but is not limited to, the following information: a) a study of the existing road infrastructure and capacity of the existing roads, bridges, culverts, sign structures, traffic and utility poles to accommodate transportation of small/passenger vehicles and large/truck oversized and overweight loads during the lifetime of the Project; b) railway and spur line; c) frequency of travel over proposed routes; d) the estimated increased deterioration to the existing road infrastructure (e.g., road surface, roadbed, bridges, culverts, etc.) as a result of transportation of oversized and overweight loads associated with the Project, and the estimated increased maintenance requirements for roads, culverts and bridges due to the proposed work; e) acknowledgement that measures that will be implemented to mitigate any deficiencies in the roads, bridges or infrastructure, including providing alternative access, acknowledging that any engineering design or investigation costs will be at the Proponent's expense; f) traffic management plans for vehicular traffic during transportation of oversized and overweight loads, including municipal requirements and traffic management plans for the transport of oversized and overweight loads through municipal roadways;	Not included in EIS Submission	Champion will develop and submit the Transportation Impact Study and Traffic Management Plan following the submission of the EIS, in consultation and coordination with applicable government departments.

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
g) identification of provincial access and right of way permit requirements as expected over the life of the Project; and h) municipal requirements regarding traffic management plans for the municipal road infrastructure.		
7.2.4 Public Participation Plan		
The EIS shall include a Public Participation Plan that describes how the public can meaningfully participate in the planning of all phases of Project (construction, operation and maintenance, decommissioning and rehabilitation) and how they will continue to be consulted throughout the life of the Project, including in the monitoring of environmental effects.	Chapter 22 (Engagement) Annex 5G (Kami Engagement Plan)	The Public Participation Plan, Indigenous Participation Plan and Domestic Wood Cutting Consultation Plan requirements are captured in the Kami Engagement Plan (Annex 5G)
7.2.5 Indigenous Participation Plan		
The Proponent shall, during the development of the EIS, engage with Indigenous Governments and Organizations whose established or asserted Aboriginal and Treaty rights may be adversely affected by the Project, to understand and address their concerns. The Proponent shall work with Indigenous Governments and Organizations to determine mutually agreeable meeting places and times, taking into account the official language needs and Indigenous language spoken by those involved. The record of engagement shall be provided in the EIS and shall describe agreed upon methods of engagement and delivery of information between the Proponent and Indigenous Governments and Organizations (i.e. translation of written documents or provision of summaries in Indigenous Languages). The EIS shall describe potential adverse impacts on established or asserted Aboriginal and Treaty rights that would be caused by a Project-induced change, and any measures to be taken and/or recommended by the Proponent that would prevent, mitigate, and/or otherwise address these effects.	Chapter 22 (Engagement) Annex 5G (Kami Engagement Plan)	The Public Participation Plan, Indigenous Participation Plan and Domestic Wood Cutting Consultation Plan requirements are captured in the Kami Engagement Plan (Annex 5G)
7.2.6 Workforce and Employment Plan		
The EIS shall include a Workforce and Employment Plan for the construction, operation and maintenance, decommissioning and rehabilitation phases of the Project, which shall be developed in consultation with the Department of Immigration, Population Growth and Skills. The employment plan shall include, but shall not be limited to, the following: a) National Occupation Classification codes (NOC 2021 or most recent available) at the 5-digit level associated with each position (including the number of positions associated with each NOC code); b) The approximate timelines for each of the positions. This would include the number of positions for each 5-digit NOC 2021 code (or most recent available) throughout the Project at specified time intervals (monthly or at least quarterly) which would show levels of employment throughout the Project timeline;	Not included in EIS Submission	Champion will develop and submit the Workforce and Employment Plan following the submission of the EIS, in consultation and coordination with applicable government departments.

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
c) An indication of whether the positions are full-time equivalent or if they are the actual number of positions; if they are indeed the actual number of positions, how many are full time vs. part-time; d) An estimate of the number of apprentices (by level and trade/5-digit NOC 2021 code, or most recent available) and journeypersons required; e) Qualifications, certifications and other requirements, including the need for, location and availability of related training opportunities (e.g., post-journeyperson training) associated with key positions; f) The anticipated source of the workforce, including an estimate of local employment (local area, provincial), an estimate of immigrant employment, and any strategies for recruitment (it is encouraged to make use of the Provincial Nominee Program and the Atlantic Immigration Program, where possible). This shall also include clarification on which positions would be direct hires, and which would be from companies contracted to carry out Project work; g) A commitment to provide quarterly summary reports. These reports would include information on the number employed by 5-digit NOC 2021 (or most recent available), the number of full-time/part- time employees, the number of apprentices (by level) and journeypersons for each applicable 5-digit NOC code, gender and source of the workforce; and h) Anticipated hiring process, policies and programs, per phase, to improve employment and training opportunities for women, Indigenous persons, gender diverse individuals and other underrepresented groups. The Plan's main components shall include: a diversity plan for Indigenous persons and other underrepresented groups, and a business access strategy for these target populations.		
7.2.7 Benefits Agreement/Gender Equity, Diversity and Inclusion Plan		
The Proponent shall acknowledge the requirement of the Department of Industry, Energy and Technology (IET) that a Benefits Agreement remains in place for the Project that meets the approval of the Minister of IET. The Benefits Agreement shall include an updated Gender Equity, Diversity and Inclusion Plan (GEDIP) that meets the approval of the Ministers of IET and Minister responsible for Women and Gender Equality.	Annex 5 A (Gender Equity, Diversity and Inclusion Plan	Follow-up and monitoring will be implemented in accordance with the Benefits Agreement/Gender Equity and Diversity Plan that apply to the Project (as signed between the Government of NL and the Kami Mine Limited Partnership in 2014), with periodic reports developed for each phase of the Project. Champion has also committed to update the Gender Equity, Diversity and Inclusion Plan and

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
		Workforce and Employment Plan.
7.2.8 Domestic Wood Cutting Construction Plan		
The Project is located inside Domestic Cutting Block CC22503. Timber harvested during road construction and clearing for this Project shall be delimbed, cut into 2.4-metre lengths, piled at roadside and made available to domestic wood cutters. The EIS shall include a Domestic Wood Cutting Consultation Plan with domestic users in the Project area to identify and address any concerns with the Project and develop appropriate mitigations, in consultation with FFA.	Chapter 22 (Engagement) Annex 5G (Kami Engagement Plan)	The Public Participation Plan, Indigenous Participation Plan and Domestic Wood Cutting Consultation Plan requirements are captured in the Kami Engagement Plan (Annex 5G)
7.2.9 Erosion and Sediment Control Plan		
The EIS shall include an Erosion and Sediment Control Plan (ESCP) to describe the methods and devices implemented to minimize erosion and sediment loss from the site as a result of clearing and soil disturbing activities throughout all phases of construction, operation and maintenance, decommissioning and rehabilitation. The ESCP shall be developed as per the erosion and sedimentation control techniques described in Section 3.1 of the Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador (DFO 2022). Available at https://www.dfo-mpo.gc.ca/pnw-ppe/ffhpp-ppph/publications/nfl-freshwater-protection-eau-douce-tnl-eng.html.	Annex 5F (Erosion and Sediment Control Plan)	
7.2.10 Dam Safety Plan		
The EIS shall include the design of any Project site dams including dam location, an assessment of alternate locations, dimensions, embankment slopes, materials, number of construction phases and phased construction type (upstream, centerline, or downstream raise). Project site dams may include settling pond dams, tailings dams, polishing pond dams, containment dams, solution pond dams, and stormwater management dams. A determination of the dam consequence classification as per the Canadian Dam Association, Dam Safety Guidelines, shall be provided for all dams as this will form the basis of the dam design and requirements for the dam safety management program to be established by the Proponent. The Dam Safety Plan shall include: a) rationale and justification for the selected tailings management area site and design including an assessment of potential impacts and associated costs at alternative site locations; b) dam break inundation modelling and mapping to help determine the consequence classification of any dams associated with the Project and for inclusion in a future Emergency Preparedness and Response Plan; c) an assessment of Project impacts on other downstream dams or dikes, downstream communities, infrastructure and environments, including any possible cascade failure of other downstream dams or dikes; d) an assessment of water quality impacts from regular discharge from the tailings management area, or a leak or failure of the tailings dam;	Annex 5B (Dam Safety Plan) TSD I (Tailings Management Facility Pre-feasibility Level Design Report) TSD II (Water Management Infrastructure Design Report)	In the next engineering phases, the dam classification will be validated with a numerical dam break analysis defining the inundation areas, accounting people at risk and environmental loss in more detail.

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
e) determination if tailings are acid generating or not, as this will inform the closure phase of the tailings management area, and provide details on plans for closure and monitoring of the tailings management area that also incorporate consideration for climate change; f) provide an overview of the closure and monitoring plans for other Project dams and associated infrastructure that also incorporate consideration for climate change. Outline who will be responsible for long-term closure activities in the event of changes to the status of the Proponent (e.g., economic challenges, change in ownership) and how closure activities would be financed, if applicable; g) identification of components of the dam safety program to be established by the Proponent based on the consequence classification of Project dams including the Emergency Preparedness and Response Plan, frequency of inspections and Dam Safety Reviews, annual inspection reports, training of staff, monitoring a surveillance instrumentation to be installed and operated, operations curves, etc. Provide a plan for how the Proponent will prove and validate the safety of its dam structures to regulators; and h) a plan for how communication and the transfer of information between the Proponent and stakeholders will be achieved, including, but not limited to, updates to Emergency Preparedness and Response Plans, notification of spilling, notification of blasting, joint emergency exercises, updating of dam break flood mapping, access road issues, and review of reports and design drawings.		
7.2.11 Environmental Effects Monitoring Program		
The EIS shall describe the environmental effects monitoring and follow-up programs (EEMPs) to be incorporated into construction, operation and maintenance, decommissioning and rehabilitation activities. EEMPs shall be developed in consultation with government departments/agencies, Indigenous Governments and Organizations, and other stakeholders. The purpose of the EEMPs is to verify the accuracy of the predictions made in the assessment of the effects as well as the effectiveness of the mitigation measures. The duration of the follow-up and monitoring shall be as long as is needed to evaluate the effectiveness of the mitigation measures. If the EEMP identifies unforeseen adverse environmental effects, the Proponent shall commit to adjusting mitigation measures, or, if needed/requested, develop and implement new mitigation measures and improvements. The proposed approach for the EEMP shall be described and shall include: a) the objectives of the follow-up and monitoring program; b) a schedule for collection of the data required to meet these objectives; c) the sampling design, methodology, selection of the subjects and indicators to be monitored, (e.g., climate, water quality, water quantity) and their selection criteria; d) the frequency, duration and geographic extent of monitoring, and justification for the extent; e) reporting and response mechanisms, including criteria for initiating a response and procedures;	Annex 5E (Environmental Effects Monitoring Program)	A conceptual EEMP is included with the EIS. A detailed EEMP will be developed, following coordination and consultation with applicable government departments.

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
f) plans to involve Indigenous Governments and Organizations and local communities in monitoring programs; g) the approaches and methods for monitoring the cumulative effects of the Project with existing and future developments in the Project area; h) procedures to assess the effectiveness of follow-up and monitoring programs, mitigation measures and recovery programs for areas disturbed by the Project; and i) a communications plan to describe the results of follow-up and monitoring to interested parties. The Proponent shall describe plans to maintain communications and working relationships with the affected government departments/agencies and stakeholders throughout the life of the Project. The intent of these plans is to involve those groups in monitoring and follow-up programs, including in the identification and work the reduction of adverse physical, biological or socio-economic effects, and the enhancements of beneficial effects. The Proponent shall prepare and submit the EEMPs subsequent to the completion of the EIS, but before the initiation of Project construction. The EEMPs shall include the following (Section 7.2.10.1 and Section 7.2.10.2):		
7.2.10.1 Groundwater and Surface water Monitoring Program		
A groundwater and surface water monitoring plan shall be described that ensures the long-term security of the water resources, and shall include, but not be limited to, a groundwater monitoring program that will require the drilling of an appropriate number of monitoring and production wells and a real-time monitoring program for water quality, quantity, and climate. Locations for potential groundwater monitoring program and real-time monitoring program stations shall be identified as part of the groundwater and surface water monitoring program. Monitoring locations within Protected Water Supply Area shall be included	Annex 5E (Environmental Effects Monitoring Program)	Conceptual groundwater and surface water monitoring programs are included in the conceptual EEMP submitted with the EIS. Detailed plans will be developed, following coordination and consultation with applicable government departments.
7.2.10.2 Avifauna Mitigation and Monitoring Plan		
An Avifauna Mitigation and Monitoring Plan (including migratory birds, raptors, upland game birds and SAR) shall be developed in consultation with ECCC's Canadian Wildlife Service and included in the EIS. The plan shall include mitigation measures, monitoring, and adaptive management frameworks for minimizing impacts of the Project on Avifauna.	Annex 5E (Environmental Effects Monitoring Program)	A conceptual avifauna mitigation and monitoring plan is included in the conceptual EEMP submitted with the EIS. Detailed plans will be developed, following coordination and consultation with applicable government departments.

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
8.0 RESIDUAL EFFECTS AND DETERMINATION OF SIGNIFICANCE		
Residual effects are those adverse environmental effects which cannot be avoided or mitigated through, or that remain after, the application of environmental control technologies and best management practices. The EIS shall list and contain a detailed discussion and evaluation of residual effects, which shall be defined in terms of the parameters outlined in section 6.2. The EIS shall contain a concise statement and rationale for the overall conclusion relating to the significance of the residual adverse environmental effects, including cumulative effects. The EIS shall, for ease of review, include a matrix of the environmental effects, proposed mitigation, and residual adverse effects.	Chapter 4 (Effects Assessment Methodology) outlines the approach to the determination of significance for the effect assessment of each identified VEC. The effect assessment of each VEC is provided in the Effects Assessment Section (#.5) of EIS technical assessment chapters (Chapters 5 to 17). A determination of significance is made for residual Project and cumulative effects. A summary of residual effects and determination of significance is provided in Chapter 21	
9.0 ASSESSMENT SUMMARY AND CONSLUTIONS		
The EIS shall summarize the overall findings of the environmental assessment, with emphasis on the key environmental issues identified.	Chapter 24	
10.0 PUBLIC ENGAGEMENT		
Under Section 58 of the Environmental Protection Act, during the preparation of an EIS, the Proponent shall provide an opportunity for interested members of the public to meet with the Proponent at a place adjacent to or in the geographical area of the undertaking, or as the minister may determine, in order to a) provide information concerning the undertaking to the people whose environment may be affected by the undertaking; and b) record and respond to concerns of the local community regarding the environmental effects of the undertaking. Under Section 10 of the Environmental Assessment Regulations, the Proponent shall notify the Minister and the public of a meeting(s) scheduled under section 58 of the Act not fewer than 7 days before that scheduled meeting. Concerns raised during the Proponent's public meeting(s) engagement with the Proponent shall be presented and addressed in a separate chapter of the EIS document. Protocol for the public meeting shall comply with the legislation and with divisional policy included in Appendix B.	Chapter 22 (Engagement) Annex 5 (Kami Engagement Plan)	

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
11. INDIGENOUS CONSULTATION		
The Proponent shall, during the development of the EIS, engage with Indigenous Governments and Organizations whose established or asserted Aboriginal and Treaty rights may be adversely affected by the Project, to understand and address their concerns. The Proponent shall work with Indigenous Governments and Organizations to determine mutually agreeable meeting places and times, taking into account the official language needs and Indigenous language spoken by those involved. The record of engagement shall be provided in the EIS and shall describe agreed upon methods of engagement and delivery of information between the Proponent and Indigenous Governments and Organizations (i.e. translation of written documents or provision of summaries in Indigenous Languages). The EIS shall describe potential adverse impacts on established or asserted Aboriginal and Treaty rights that would be caused by a Project-induced change, and any measures to be taken and/or recommended by the Proponent that would prevent, mitigate, and/or otherwise address these effects. The Indigenous Participation Plan required by section 7.2 of the Guidelines can be referenced here, rather than repeated if included in Section 7.2, or can be included here or as an Appendix to the EIS.	Chapter 22 (Engagement) Annex 5G (Kami Engagement Plan)	
12.0 ENVIRONMENTAL PROTECTION PLAN		
The Proponent shall prepare an EPP for each construction site for approval by the Minister of Environment and Climate Change before starting construction. The EPP shall be a stand-alone document that assigns responsibility to the site foreperson, the Proponent's occupational health and safety staff, the Proponent's environmental staff and any government environmental surveillance staff. The EPP shall address construction, operation and maintenance activities throughout the lifetime of the Project. A proposed Table of Contents and an annotated outline for the EPPs is to be presented in the EIS, which shall address the major construction, operational and maintenance activities, permit requirements, mitigation measures and contingency planning as follows: a) Proponent's environmental policies and provincial and federal environmental legislation and policies; b) environmental compliance monitoring; c) environmental protection measures; d) mitigation measures; e) permit application and approval planning; f) contingency planning for accidental and unplanned events; g) statutory requirements; and h) revision procedures and contact lists. The Proponent shall prepare and submit the EPP subsequent to the completion of the EIS, and prior to the initiation of Project construction.	Annex 5D (Environmental Protection Plan Annotated Table of Contents)	The detailed EPP will be developed following submission of the EIS in coordination and consultation with applicable government departments.

Table 1: EIS Guidelines Concordance Table

Kami Mine Project EIS Generic Guidelines Descriptions	Applicable Corresponding EIS Chapter, Annex or Technical Support Document or Annex	Comments
13.0 REFERENCES		
The Proponent shall prepare a complete and detailed bibliography of studies used to prepare the EIS. Supporting documentation shall be referenced in the EIS and submitted in separate volumes or attached as an appendix to the EIS.	A compiled reference list is provided with the EIS. The references used in each Annex and TSD is outlined in their respective "References" section.	
14.0 PERSONNEL		
The names and qualifications of key professionals responsible for preparing the EIS and supporting documentation shall be included. A description of the qualifications of scientists conducting surveys and scientific studies associated with the undertaking shall be provided.	Appendix 1A (Qualifications of Survey and Technical Study Leads)	
15.0 COMMENTS MADE IN THE EIS		
The EIS is a statement of the Proponent's environmental conclusions and commitments related to the Project and shall be explicitly endorsed by the Proponent. The EIS shall provide a list of all commitments made regarding environmental effects mitigation, monitoring and follow-up. Each commitment shall be cross-referenced to the section of the EIS where it has been made.	Chapter 20, Appendix 20A and 20B Chapter 23	
16.0 COPIES OF REPORTS		
The EIS shall be prepared according with these guidelines and once completed, the Proponent shall submit printed and electronic copies of the EIS to ECC as specified below: – 3 electronic copies (USB drives), and – 1 paper copy. The Minister reserves the right to request additional digital and paper copies, if needed.	The EIS will be prepared in accordance with the guidelines, including the digital and hard copy requirements.	
Stand-alone studies associated with the EIS, including baseline studies and all plans required in section 7 of the guidelines (above) shall be included in the body of the EIS or as appendices.	Annexes 1 to 4 provide baseline studies supporting the EIS Technical Support Documents are also provided with the submission of the EIS	
The Proponent shall make printed copies of the EIS available at public libraries or viewing centers in the Project vicinity, to be approved by ECC.	Copies of the EIS will be provided at libraries or viewing centres, as agreed to with ECC.	

Kami Mining Project

Champion Kami Partner Inc

Walbush, NL

EIS Table of Contents

Environmental Impact Statement

CA0038713.5261

July 2025

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Abbreviations List

Environmental Impact Statement

Document Number: CA00387135261-R-Rev0_Master Abbreviations List

July 2025

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Abbreviations

Abbreviation	Definition
%HA	percent highly annoyed
ABA	Acid Base Accounting
ACCDC	Atlantic Canada Conservation Data Centre
AECL	Atomic Energy of Canada Limited
AER	Alberta Energy Regulator
Ag	silver
AG	autogenous grinding
AIA	Archaeological Impact Assessment
AIP	Agreement-in-Principle
Al	aluminum
Al_2O_3	aluminum oxide
ALARA	as low as reasonably achievable
ALARP	as low as reasonably practicable/possible
Alderon	Alderon Iron Ore Corporation
Am-241	americium-241
AMP	Adaptive Management Plan
AMMP	Avifauna Mitigation and Monitoring Plan
AN	ammonium nitrate (AN prill)
ANC	acid-neutralizing capacity
ANFO	ammonium nitrate fuel oil
ANOVA	analysis of variance
AOA	Archaeological Overview Assessment
AOO	Anticipated Operational Occurrences
AP	acid potential
APHA	American Public Health Association
API	American Petroleum Institute
Ar-41	argon-41
ARD	acid rock drainage
ARU(s)	acoustic remote unit(s)
As	arsenic
As(III)	arsenite
As(V)	aresnate
$As2O_3$	arsenic trioxide
AST	aboveground storage tank
ASX	Australian Securities Exchange
ATV	all-terrain vehicle
Au	gold
Avg	average
AZ	Azimuth
B	boron
Ba	barium
BACT	best available control technology
BAF	bioaccumulation factors
BBA	BBA Inc.
BBOP	Business and Biodiversity Offsets Program
BBS	breeding bird survey
BC	British Columbia

Abbreviation	Definition
BCF	bioconcentration factors
Be	beryllium
BEP	best environmental practice
bgs	below ground surface
Bi	bismuth
Bit	bitumen
BLM	biotic ligand model
BNQ	Bureau de normalisation du Québec
BOD	biological oxygen demand
BOF	basic oxygen furnace
BTEX	benzene, ethylbenzene, toluene, xylene
BV	Benchmark Value
CH4	methane
Ca	calcium
CAAQS	Canadian Ambient Air Quality Standards
CAC	criteria air contaminant
CaCO3	calcium carbonate
CAD	Canadian dollar
CALPUFF	California puff
CAMS	continuous air monitoring station
CaPA	Canadian Precipitation Analysis
CaO	calcium monoxide
CAPEX	capital expenditure
CAPMoN	Canadian Air and Precipitation Monitoring Network
CARS	community aerodrome radio station
CBI	Canadian Boreal Initiative
CCDG	Cahiers des Charges et Devis Généraux
CCME	Canadian Council of Ministers of the Environment
Cd	cadmium
CDA	Canadian Dam Association
CDWQG	Canadian Drinking Water Quality Guideline
Ce	cerium
CEAA 2012	Canadian Environmental Assessment Act, 2012
CEAA or The Agency	Canadian Environmental Assessment Agency
CEB	chronic effects benchmarks
CEC	cation exchange capacity
CEO	Chief Executive Officer
CH4	methane
Champion	Champion Kami Partner Inc.
CHVI	cultural heritage value or interest
CIE	Commission Internationale de L'Eclairage
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
Cl (lowercase L)	chlorine
CNWA	Canada Navigable Waters Act
CO	carbon monoxide
Co	cobalt
CO2	carbon dioxide
CO2e	carbon dioxide equivalent
COC	contaminant of concern

Abbreviation	Definition
COD	chemical oxygen demand
COPC	constituent (chemical) of potential concern
COS	carbonyl sulphide
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CPI	Consumer Price Index
CPUE	catch-per-unit-effort
Cr	chromium
Cr2O3	chromium oxide
Cs	caesium
Cs-137	cesium-137
CSA Group	Canadian Standards Association Group
CSI	carbon sink impact
Cu	copper
CWQG	Canadian Water Quality Guideline
DAAIR	Department of Aboriginal Affairs and Intergovernmental Relations
DBR	Design Basis Report
DDA	dedicated disposal area
DECC	Department of Environment and Climate Change
DEM	digital elevation model
DFO	Fisheries and Oceans Canada
DL	detection limit
DLCOA	Duley Lake Cabin Owners Association
DLCSM	Duley Lake Conceptual Site Model
d-m-y	day-month-year
DNR	Department of Natural Resources
DO	dissolved oxygen
DOC	dissolved organic carbon
DOM	dissolved organic matter
DRI	direct reduction iron
DSO	direct shipping ore
DTM	digital terrain model
dw	dry weight
DWQG	Drinking Water Quality Guideline
EA	environmental assessment
EAC	Environmental Assessment Committee
EAF	electric arc furnace
EBITDA	annual earnings before interest, tax, depreciation and amortization
ECC	Government of Newfoundland and Labrador, Department of Environment and Climate Change
ECCC	Environment and Climate Change Canada
EDT	Effluent Discharge Targets
EEMP	Environmental Effects Monitoring Program
EF	emission factor
EIS	Environmental Impact Statement
ELC	Ecological Landscape Classification
EPC	engineering, procurement, and construction
EQC	effluent quality criteria
ESA	Endangered Species Act
ESCP	Erosion and Sediment Control Plan
F	fluorine

Abbreviation	Definition
FAA	Fisheries Act Authorization
FDP	final discharge points
Fe	iron
Fe2O3	iron oxide
FIFO	fly-in fly-out
FMEA	failure modes and effects analysis
FNFNES	First Nations Food, Nutrition and Environment Study
FPIC	free, prior, and informed consent
FS	Feasibility Study
FTA	Federal Transit Administration
FTE	full-time equivalent
FWQG	Federal Water Quality Guidelines
Genset	generator set
GHD	GHD Limited
GHG	greenhouse gas
GHGRP	Greenhouse Gas Reporting Program
GIS	Geographic Information System
GovNL	Government of Newfoundland and Labrador
GPS	Global Positioning System
H:V	horizontal to vertical
H+	hydrogen ions
H2	hydrogen
H2S	hydrogen sulphide
HCO3	bicarbonate
HCT	humidity cell test
Hg	mercury
HHRA	Human Health Risk Assessment
HI	hazard identification
HSE	Health, Safety, and Environment
HSI	Habitat Suitability Index
Hwy	Highway
I/O	input/output
IAA	Impact Assessment Act
IAAC	Impact Assessment Agency of Canada
IAP2	International Association for Public Participation
IBA	Impact Benefit Agreement
ID	identification
IDF	inflow design flood
IDZ	initial dilution zone
IESNA	Illuminating Engineering Society of North America
IOC	Iron Ore Company of Canada / Rio Tinto Iron Ore Company of Canada
IPCC	Intergovernmental Panel on Climate Change
IPCC	in-pit crusher and conveyor, or in-pit crushing and conveying
ISEE	International Society of Explosives Engineers
ISO	International Organization for Standardization
ISQG	Interim Sediment Quality Guideline
ITUM	Innu Takuaikan Uashat mak Mani-Utenam
K	potassium
K	hydraulic conductivity

Abbreviation	Definition
Kami	Kamistiatusset
KEP	Kami Engagement Plan
LAleq	equivalent energy noise level in dBA
Ldn	combined day-night sound level
Leq	equivalent energy noise level
Leq,1hr	equivalent energy noise level over 1 hour interval
Leq,1min	equivalent energy noise level over 1 minute interval
Leq,day	equivalent energy noise level over the daytime period (7:00 a.m. to 10:00 p.m.)
Leq,night	equivalent energy noise level during nighttime period (10:00 p.m. to 7:00 a.m.)
Lmax	maximum sound and noise level
Li	lithium
LiDAR	Light Detection and Ranging
LIORC	Labrador Iron Ore Royalty Corporation
Lorax	Lorax Environmental Services Ltd.
LSA	local study area
MAA	multiple accounts analysis
MAC	Mining Association of Canada
MAP	mean annual precipitation
max	maximum
MBCA	Migratory Bird Convention Act, 1994
MDL	method detection limit
MDMER	Metal and Diamond Mining Effluent Regulations
MFQ	Quebec Iron Ore (Minerai de fer Québec; subsidiary of Champion)
Mg	magnesium
MgO	magnesium oxide
MGGA	Management of Greenhouse Gas Act
ML	metal leaching
ML/ARD	metal leaching and acid rock drainage
MLCOA	Mills Lake Cabin Owners Association
Mn	manganese
MnO	manganese oxide
Mo	molybdenum
MOU	Memorandum of Understanding
MP	Member of Parliament
MRS	mine rock stockpile
N	nitrogen
n/a	not available [or not applicable]
N2O	nitrous oxide
Na	sodium
Na+K	sodium + potassium
Na2O	sodium oxide
NAD	North American Datum
NAG	non-acid generating
NAPS	National Air Pollution Surveillance Network
NBCC	National Building Code of Canada
NCC	NunatuKavut Community Council
NGO	Non-Governmental Organization
NH3	ammonia
NIMLJ	La Nation Innu Matimekush-Lac John

Abbreviation	Definition
NL	Newfoundland and Labrador
NL AAQS	Newfoundland and Labrador Ambient Air Quality Standards
NL BBA	Newfoundland and Labrador Breeding Bird Atlas
NL DECC	Newfoundland and Labrador Department of Environment and Climate Change
NL DFFA	Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture
NL DIET	Newfoundland and Labrador Department of Energy and Technology
NL DIPGS	Newfoundland and Labrador Department of Immigration, Population Growth and Skills
NL DMAE	Newfoundland and Labrador Department of Municipal Affairs and Environment
NL DTCAR	Newfoundland and Labrador Department of Tourism, and Culture, Arts and Recreation
NL ECWSR	Newfoundland and Labrador Environmental Control Water and Sewage Regulations
NL EPA	Newfoundland and Labrador Environmental Protection Act
NL ESA	Newfoundland and Labrador Endangered Species Act
NL NFB	Newfoundland and Labrador Nutritious Food Basket
NL OIAR	Newfoundland and Labrador Office of Indigenous Affairs and Reconciliation
NL WRMD	Newfoundland and Labrador Water Resources Management Division
NL1	Lac Joseph boreal caribou range
NNK	Naskapi Nation of Kawawachikamach
No.	number
NO2	nitrogen dioxide
NO2-	nitrite
NO3-	nitrate
NOx	nitrogen oxides
NOEC	no observed effect concentrations
NORMs	naturally occurring radioactive materials
NP	neutralization potential
NP/AP	neutralization potential/acid potential
NPAG	non-potentially acid generating
NPR	neutralization potential ratio
NRC, NRCAN, NRCan	Natural Resources Canada
O. Reg.	Government of Ontario Regulation
O2	oxygen
O3	ozone
OAG	Office of the Auditor General of Canada
Okane	Okane Consultants
P	phosphorus
PAG	potentially acid generating
PAH	polycyclic aromatic hydrocarbons
PAO	Provincial Archaeology Office
Pb	lead
PDA	Project Development Area
PEL	probable effects level
PFS	Pre-feasibility Study
pH	potential of hydrogen, provides measure of the acidity or alkalinity of a solution on a scale of 0 to 14.
PM	particulate matter
PM10	particulate matter with a mean aerodynamic diameter of 10 microns (µm) or smaller
PM2.5	particulate matter with a mean aerodynamic diameter of 2.5 microns (µm) or smaller
PMP	probable maximum precipitation
POR	point of reception
PPE	personal protective equipment

Abbreviation	Definition
PPV	peak particle velocity
PPWSA	protected public water supply area
Project, the	Kamistiatusset (Kami) Mining Project
QA	quality assurance
QA/QC	quality assurance and quality control
QBBA	Québec Breeding Bird Atlas
QC	quality control
QC6	Québec boreal caribou range
RFD	reasonably foreseeable development
RLCOA	Riordan Lake Cabin Owners Association
RMR	rock mass ratio
RMS	root-mean square
RMZ	regulatory mixing zone
ROM	Run-of-Mine
ROW, ROWs	right-of-way, rights-of-way
RSA	regional study area
RV	recreational vehicle
S	sulphur
SAG	semi-autogenous grinding
SAR	Species at Risk
SARA	Species at Risk Act
SCWG	Soil Classification Working Group
SD	standard deviation
Se	selenium
SFE	shake flask extraction
SFPPN	Société Ferroviaire et Portuaire de Pointe-Noire
SiO2	silicon dioxide (silica)
SMU	soil map unit
Sn	tin
SO2	sulphur dioxide
SO4	sulphate
SO42-	sulphate (particle)
SOCC	Species of Conservation Concern
SOx	sulphur oxides
sp.	species
SSA	site study area
ssp.	subspecies
SSWQO	Site-Specific Water Quality Objective
Stantec	Stassinu Stantec Limited Partnership
TAC	Transportation Association of Canada
Tacora	Tacora Resources
TARP	Trigger Action Response Plan
TC	Transport Canada
TDG	Transportation of Dangerous Goods
Ti	titanium
TiO2	titanium dioxide
TK	Traditional Knowledge
TKLUS	Traditional Knowledge and Land Use Study
TKN	total Kjeldahl nitrogen

Abbreviation	Definition
Tl (capital l)	thallium
TLH	Trans-Labrador Highway
TLRU	Traditional Land and Resource Use
TLU	Traditional Land Use
TMF	Tailings Management Facility
TN	total nitrogen
TP	total phosphorous
TPM	total particulate matter
TRV	toxicity reference value
TSD	Technical Support Document
TSM	Towards Sustainable Mining
TSP	total suspended particulate
TSS	total suspended solids
U	uranium
US / USA	United States / United States of America
US EPA / USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
V	vanadium
VAIA	Visual Aesthetics Impact Assessment
VEC	Valued Environmental Component
VOC	volatile organic compound
VP	viewpoint
vs.	versus
WBWQM	water balance and water quality model
WESP-AC	Wetland Ecosystem Services Protocol for Atlantic Canada
WHMIS	Workplace Hazardous Materials Information System
WHO	World Health Organization
WMP	Waste Management Plan
WMU	Wildlife Management Unit
WMZ	Wildlife Management Zone
WNS	White Nose Syndrome
WSC	Water Survey of Canada
WSE	water surface elevation
WSP (WSP Canada Inc.) Golder (Golder Associates Ltd.)	2023 onwards: members of WSP Canada Inc. engagement team (then known as Golder Associates Ltd. engagement team)
WTP	water treatment plant
WWSC	White Wolf Snowmobile Club
WWTP	wastewater treatment plant
Zn	zinc
ZnEq	zinc equivalent


Kami
Kamistiatusset
Mining
Project

Kami Mining Project

Champion Kami Partner Inc.

Wabush, NL

Glossary

Environmental Impact Statement

Document Number: CA00387135261-R-Rev0-Glossary

July 2025

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Glossary

1. Project Infrastructure Terminology

Group	Component	Details
Mining and Operations	rose pit	The proposed open pit located southwest of Pike Lake and underneath the existing Rose Lake. Rose Pit is composed of three nested pit phases (Rose Phase 1 to Phase 3).
	mine service area	Consists of a temporary megadome mine garage, workshop, warehouse, mine employees facilities, five 79,000 L capacity diesel fuel tanks for mine operations (located near the mine garage) and one 50,000 L capacity diesel fuel tank for the 2.5 MW emergency generator. A permanent mine garage, employee facilities, workshop, and warehouse will be built after five years of operation, replacing the temporary facilities. The temporary megadome mine garage will be converted for use as a warehouse.
	Emulsion and Explosion Production Plant	Will be built and operated at a safe distance (approximately 500 m) from the mining operations. The plant will produce an estimated 30 kilotonne equivalent (kTe) of explosives per year at peak production. Raw materials for the manufacture of explosives will be transported by truck from the Town of Wabush to the plant. Explosives will be stored adjacent to the plant, at a safe distance north of the mine. Explosive accessories will be stored in a magazine located near the plant.
	ore stockpile	This stockpile has a capacity of 2.0 Mt and will be used for blending of ores to facilitate daily crusher feeding and to maintain an adequate feed grade to the process plant located to the east of Duley Lake.
	low-grade ore stockpile	This stockpile has a capacity of 3.3 Mt and will be used to store lower grade material until it can properly blend and feed ore to the primary ore crusher station.
	emergency ore stockpile	This stockpile has a capacity of 0.9 Mt and will be used during periods when the mine cannot feed ore to the primary crusher due to inclement weather or other reasons.
	primary ore crusher station	Consists of the two primary crusher buildings, conveyors, and a transfer tower that will be located adjacent to the primary crusher buildings. The primary ore crusher station is located in close proximity to the Rose Pit, with the closest primary crusher building being located approximately 640 m from the projected final pit shell boundary. A takeaway belt conveyor will discharge the ore onto a surge pile covered by a dome built inside one of the primary crusher buildings. Under the pile, an apron feeder will regulate the ore flow into the reclaim belt conveyor. Ore is then transferred onto the main overland conveyor located within the transfer tower.
	main overland conveyor	The main overland conveyor will transport crushed ore over a distance of approximately 4 km along the main access road, crossing over a separate bridge at the Waldorf River to reach the rushed ore stockpile.
	overland conveyor bridge	Crossing the Waldorf River, this bridge will be parallel to the vehicle bridge and provide structural support and spill containment for the main overland conveyor.
	Waldorf River bridge	This bridge will be a 25 m wide, single lane bridge to service general vehicles and mine operation trucks.
	crushed ore stockpile	The crushed ore stockpile will be located near the process plant and will provide a live capacity of 54,000 Mt and a total capacity of 140,000 Mt. The crushed ore stockpile will be covered by a geodesic dome that will have a diameter of 95 m and will be 27 m high. Crushed ore will be reclaimed from the stockpile using three apron feeders through an underground tunnel housing the mill belt conveyor, which in turn feeds ore to the process plant. The mill belt conveyor will be approximately 230 m in length.
	process plant	The process plant will be located to the east of Duley Lake and will consist of a concentrator and ancillary process areas including, but not limited to, thickeners, a process water tank, tailings pumps, a boiler house, a maintenance shop, a warehouse, and electrical rooms. Process plant and concentrator are used synonymously throughout the EIS.
	concentrate load-out	Following processing, iron ore concentrate will be conveyed over a distance of approximately 900 m from the concentrator to a concrete load-out silo with a capacity of 30,000 Mt. Iron ore concentrate from the load-out silo will be conveyed to a 550 Mt capacity surge bin, which will discharge directly into railcars. Track scales will be used to control the weight of the concentrate.
Waste	overburden stockpile	A stockpile of the stripped soil or rock layer overlying mineral deposits. Overburden will be transported via haul trucks to the overburden stockpile. The overburden stockpile is located

Group	Component	Details
		north of Rose Pit, in the same location as the previously proposed stockpile in the 2012 EIS (referred to as the Rose North disposal area/stockpile/dump).
	mine rock stockpile	Mine rock extracted during mining operations is composed of waste rock within Rose Pit and ore that does not meet quality criteria for processing. Mine rock will be stored in the mine rock stockpile, which will be located east of Mills Lake, in the same location as the previously proposed stockpile in the 2012 EIS (referred to as the Rose South Disposal Area / Stockpile / Dump).
	in-pit crushing and conveying (IPCC) system	An IPCC system will be used to transport mine rock from Rose Pit to the mine rock stockpile. The IPCC system is a semi-mobile structure that can be moved as the mining progresses through operations. Mine rock will be crushed by the IPCC system in the Rose Pit. Once crushed, mine rock will be conveyed up the pit ramp to surface, at which point it will be transferred to the IPCC Conveyor. This overland conveyor will run for 2.5 km east to reach the mine rock stockpile.
	tailings management facility (TMF)	The TMF will be located east of Duley Lake and will store tailings generated during ore processing. It is estimated that the Kami Project will produce a total of 420.4 Mt of tailings, which corresponds to a storage volume requirement of 280.3 million cubic metres (Mm^3) for the TMF over the 26 years of the Operations Phase. The TMF will consist of the starter dam, representing Stage 1 for the facility. The TMF will be undergo eight centreline embankment raises throughout the Operations Phase, representing a total of nine embankment stages. The starter dam will utilize a high-density polyethylene (HDPE) liner on the upstream side with zoned earthfill and non-woven geotextile. The main body of the dam will be constructed of non-potentially acid generating (NPAG) mine rock, which will be generated during pre-production mining as part of the Construction Phase.
Water Management	Rose Pit collection pond	The Rose Pit collection pond will be located in Elfie Lake and End Lake. Two dams will be built for this purpose: a 19 m high dam will be built on the west side of Elfie Lake and a 12 m high dam will be built on the east side of End Lake. Both dams will be constructed with compacted NPAG mine rock and the upstream slope will be sealed with an HDPE geomembrane. The pond created will have a 4 Mm^3 capacity. A pumping system and three HDPE pipelines will be used to pump water over a 255 m distance to reach the water treatment plant.
	water treatment plant	A water treatment plant will be required to treat water coming from TMF, which will receive coarse and fine tails from the mill, natural precipitation, and catching ponds along the haul road. Total suspended solids (TSS) and pH are the parameters of interest expected to require treatment to achieve compliance to discharge into Duley Lake. It is assumed that water received from the TMF for re-use in the process will not need any treatment before being returned to the process tank.
	Mid Lake dam	A 5.5 m high dam will be constructed at the outlet of Mid Lake to stop and divert non-contact water runoff from the Rose Pit upstream. The dam will be constructed with compacted NPAG mine rock and the upstream slope will be sealed with an HDPE geomembrane. A pumping system with one pipeline will be used to pump non-contact water over a 585 m distance to transfer the water into Pike Lake, downstream of the outlet of the treated contact water discharge of the west treatment plant into Pike Lake.
	Pike Lake dike	The Pike Lake dike will be built at the southern end of Pike Lake South to empty the most southern part of the lake that is adjacent to the Rose Pit. The pumping system used for dewatering Rose Lake will be relocated and used to empty the portion of Pike Lake South on the south side of the Pike Lake dike. The Pike Lake dike will be built with compacted NPAG mine rock. An above-ground HDPE pipeline will be used to discharge water from the south side of the Pike Lake dike to its north side over a 150 m distance.
	overburden stockpile collection pond	The overburden stockpile collection pond will be constructed with a 5 m deep excavation and 2 m high dike. The dike will be constructed with compacted till from the excavation, and the upstream slope of the dike and bottom of the pond will be sealed with an HDPE geomembrane. Catchment ditches will be built on the perimeter of the overburden stockpile to direct runoff to the collection pond. A pumping system will be used to pump water through an above-ground HDPE pipeline over a 4,240 m distance to be discharged into the Rose Pit collection pond.
	mine rock stockpile collection ponds	Four collection ponds will be required to manage the runoff contact water from the mine rock stockpile. Collection ponds will be made with dams constructed with NPAG compacted rockfill. The upstream slope of the dams and bottom of the ponds will be sealed with an HDPE geomembrane. Catchment ditches will be built on the perimeter of the mine rock stockpile to direct runoff to the collection ponds.

Group	Component	Details
		A pumping system will be used to pump water from the collection ponds to the west water treatment plant. All pipelines will report to the collection pond located north of the mine rock stockpile, and water will then be pumped from this collection pond using above-ground HDPE pipelines into the Rose Pit collection pond.
	tailings management facility (TMF) pond	The TMF pond, located within the TMF, will collect direct precipitation and water discharged from the process plant with the tailings and water pumped back from the downstream perimeter seepage collection sumps around the TMF. During the Operations Phase, water will be pumped from the pond via a reclaim system back to the process plant for re-use. Excess water will be treated within the east waste water treatment plant and discharged to Duley Lake. Emergency spillways for the TMF will be commissioned, decommissioned, and re-established for each of the nine embankment stages. In the unlikely event that a spillway becomes active, water discharging from the stilling basin will flow towards Riordan Lake as overland flow. Runoff and seepage collection ditches will be constructed along the toe of the perimeter dam in the TMF. The water collected in the ditches will be directed to sumps strategically established at topographic low areas around the perimeter of the TMF alignment. The water collected in the sumps will be pumped back to the TMF with a pump and pipeline system.
	stormwater management	Ditches have been designed along the edges of mine facilities, access roads, and around building pads to allow rainwater to flow via gravity into nine stormwater basins where it will be pumped into the closest stormwater detention basin or into the TMF for treatment and eventual discharge. Each basin is located in a natural low point to minimize the number of pumps required to move the stormwater. Stormwater on the west side of the Waldorf River bridges will be treated by the Rose Pit collection pond and the west water treatment plant. Basins #1 and #2 will collect stormwater diverted from the primary ore crusher station, emergency ore stockpiles, and the surrounding roads and drain into the Rose Pit collection pond. Basin #3 will drain the mine service area, while Basin #4 will drain the aggregate plant and the haul road west of the Waldorf River bridges into the mine rock stockpile collection pond to then be pumped to the Rose Pit collection pond for treatment. Stormwater on the east side of Waldorf River bridges will be treated by the east water treatment plant in the process plant. Basins #5 and #6 will drain the road between Waldorf River and the concentrator. Basins #7 and #8 will drain the concentrator, emergency ore stockpile, and the crushed ore stockpile. Basin #9 will drain the road between the concentrator and the rail line. These basins will then be pumped into the TMF before the water is being pumped to the east treatment plant to be treated and discharged.
	freshwater pumping stations	There are two stations: one located southeast of Duley Lake and another located at Mills Lake. The water pumped from Duley Lake will be used for freshwater requirements at various facilities, occasional make-up water, and potable water for the concentrator area. A small pumping station located at Mills Lake provides service water for the crusher and mine services area.
Supporting infrastructure	railway line	A newly constructed railway, referred to as the Kami Railway Line, will be developed to connect the mine south of Wabush to the Quebec North Shore & Labrador railway (QNS&L) Railway line, north of Wabush-Labrador City airport. The proposed Kami Railway Line will be a single track that connects the QNS&L line to the Project, and it will include a loading loop at the mine site as well as additional tracks for train car storage. The loading loop is designed to accommodate 240-car trains, which will be loaded in the concentrate load-out. It is currently proposed that the railway will not be used to transport supplies, such as diesel, to the site–these supplies will be transported to site by truck.
	site access roads	Road access to the Kami Project site will be through a new road, which will have a proposed length of 18.5 km and width of 10.5 m, from Highway 500 south, passing east of the Town of Wabush to the Kami site. This preliminary routing alignment was selected so that traffic can bypass the Town of Wabush; it is a similar alignment to the access road that was defined and assessed in the 2012 EIS. It is currently proposed that supplies such as diesel will be transported to site by truck, using this access road. Another access road, to be used mainly during construction, will provide access to the area west of the Project site–specifically to the Rose Pit and crusher areas. Gated guardhouses are proposed to control access to the facilities from both access roads.
	on-site access roads	Mine roads will be built on site to connect the Rose Pit to the primary ore crushing station, the overburden and mine rock stockpiles, and to the TMF. A road around the Rose Pit, referred to as the ring road, will be developed to facilitate access to these facilities. The ring

Group	Component	Details
		road embankment will be constructed with NPAG rockfill. The road structure will have a 1 m thickness of sand and gravel material.
	electricity	The electrical power needs of the Project are estimated at 172 megawatts (MW). This power will be delivered to the Project site through a proposed transmission line from the 315 kilovolt (kV) Flora Lake substation, located 18 km away. Both the Flora Lake substation and the transmission line will be built by Newfoundland & Labrador Hydro (NL Hydro). The incoming 315 kV from the Flora Lake substation will be stepped down to 34.5 kV using three transformers, in which the total electrical load is shared among all three transformers. The 34.5 kV will then be distributed to various load centres within the Project site, where it will be further stepped down to 13.8 kV, 7.2 kV, 4.16 kV, or 600 V for powering mining, process, and auxiliary loads. Three 2,500 kW generator sets will provide backup power to the plant for selected process loads and critical components requiring emergency power in case of a general power failure.
	borrow pit	A borrow pit will be located east of Mills Lake and of the mine rock stockpile; it will provide construction materials for the Project.
	crushing plant	The crushing plant will produce crushed materials to be used for blasthole stemming and road.
	telecommunication services	Telecommunication services will be provided with a 15 km fibre optic cable using the 34 kV construction and maintenance power transmission line. A Starlink service will be installed and available for telecommunication services during the Construction Phase and afterward as a communication link backup. Mobile communication for the mining activities will be based on a private LTE (Long Term Evolution) in addition to public LTE coverage available in this area.
	fire protection systems	Will be located across the mine site. Four (4) fire protection systems will cover either the primary ore crusher station, mine services area, process plant and auxiliary buildings, or the concentrate load-out area. Each system contains a water tank and a diesel-powered fire water pump, except for the system covering the process plant, which contains an electrical pump with a diesel pump as backup.

2. Socioeconomic Terminology

Term	Details
cabin owners	Used when speaking about neighbouring cottages or cabins along Duley Lake, Mills Lake, Riordan Lake, or other lakes within the vicinity of the Project.
Indigenous groups	Used when discussing leadership/political entity.
Indigenous communities	Used when discussing physical locations/the public.
Indigenous Peoples	Broad term for Indigenous People in general.
Indigenous and Local Knowledge	Used when speaking in generalities.
Indigenous Knowledge	Used when speaking about Indigenous Knowledge specifically.
local communities	Used when speaking about Project-vicinity communities (e.g., Wabush, Fermont, Labrador City).
stakeholders	Used when speaking about non-Indigenous people or groups that could influence the Project.

3. Water Terminology

Project Water Terms	Details
mine water	Water that flows into the pit.
contact water	Water that may have been physically or chemically altered by Project activities. This water may be diverted and require management (e.g., treatment) before release to the environment. This includes dewatering of mine water from open pit mining activities as well as all runoff on surfaces disturbed by the Project.
collection pond	General term that is used to refer to a water management facility that collects contact water run-off and seepage.
non-contact water	Water that has not been physically or chemically altered by Project activities. This water is typically diverted when practicable and allowed to discharge directly to the receiving environment.
fresh water	Water sourced from Duley Lake for use by the Project.
release water	Contact water that has been treated in the water treatment plant and is discharged to the environment after meeting discharge criteria.
treated sewage discharge	Water that has been treated in the sewage treatment plant and is ready for discharge to the environment after meeting appropriate discharge criteria.
freshwater pumping stations	There are two stations: one located southeast of Duley Lake and another located at Mills Lake. The water pumped from Duley Lake will be used for freshwater requirements at various facilities, occasional make-up water, and potable water for the concentrator area. A small pumping station located at Mills Lake provides service water for the crusher and mine services area.

4. Waste Terminology

Project Waste Terms	Details
Ore	Ore that is sourced from the pit with equal or greater than 29.2% iron (Fe).
mine waste	General term that includes tailings, mine rock, and other geological by-products of the mining process not otherwise specified.
tailings	A by-product of ore processing completed in the process plant that is considered uneconomic. All tailings would be stored permanently in the TMF.
mine rock	Includes non-potentially acid generating (NPAG) mine rock, potentially acid generating (PAG) mine rock, and special waste.
NPAG	Non-potentially acid generating (NPAG) waste rock is clean mine rock with a neutralization potential ratio (NPR) of > 2.
PAG	Potentially acid generating (PAG) waste rock is mine rock with an NPR > 2.
mine waste management infrastructure	Project components required to manage waste generated from mining activities (i.e., mine rock and overburden). These include the in-pit crushing and conveying (IPCC) system, mine rock stockpile, and overburden stockpile.
conventional waste	Includes domestic, industrial, and hazardous wastes. Does not include sewage.
sewage	Waste water from toilets, sinks, showers, laundry, kitchen, and other domestic sources and facilities at the Project, including but not limited to sanitary liquid waste of human origin.

Project Waste Terms	Details
domestic waste	All non-industrial and non-hazardous waste generated from the camp and office areas, including living quarters; coffee rooms; and kitchen, food preparation, and eating areas.
industrial waste	All non-domestic and non-hazardous waste generated from construction, commissioning, operation, and maintenance activities for the mine and process plant.
hazardous waste	All non-domestic and non-industrial waste that is defined as a waste dangerous good in the *Environmental Protection Act* of the Government of Newfoundland and Labrador (2022).

5. Waterbodies and Features near the Project

Waterbodies Within Vicinity of The Project
Rose Lake
Pike Lake
Mid Lake
Duley Lake (also referred to as Long Lake)
Mills Lake
Molar Lake
Lac Daviault
Elephant Head Lake
Riordan Lake
Wabush Lake
Wahnahnish Lake
Wahnahnish Lake Protected Public Water Supply Area
Waldorf River
Walsh River
Churchill River
Flora Lake

Kami Mining Project

Champion Kami Partner Inc.

Wabush, NL

Reference List

Environmental Impact Statement

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