ENVIRONMENTAL IMPACT STATEMENT GUIDELINES

for

Kami Iron Ore Mine
Labrador West, NL
Champion Iron Mines Ltd.

File No. 2301

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Glossary of Acronyms and Abbreviations

ACCDC	Atlantic Canada Conservation Data Centre
ARD	Acid Rock Drainage
BACT	Best Available Control Technology
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CWS	Canadian Wildlife Service
DFO	Department of Fisheries and Oceans Canada
EAC	Environmental Assessment Committee
EBSA	Ecologically and Biologically Significant Area
ECC	Department of Environment and Climate Change
ECCC	Environment and Climate Change Canada
EEMP	Environmental Effects Monitoring Program
EIS	Environmental Impact Statement
EPP	Environmental Protection Plan
ESCP	Erosion and Sediment Control Plan
FFA	Department of Fisheries, Forestry and Agriculture
GEDIP	Gender Equity, Diversity and Inclusion Plan
GHG	Greenhouse Gas
GIS	Geographic Information System
IET	Department of Industry, Energy and Technology
MBCA	Migratory Birds Convention Act
MGGA	Management of Greenhouse Gas Act
ML	Metal Leeching
NFPA	National Fire Protection Association
NL	Newfoundland and Labrador
NOC	National Occupation Classification
NORM	Naturally Occurring Radioactive Materials
NPRI	National Pollutant Release Inventory
SAR	Species at Risk

SARA	Species at Risk Act
SI	International System of Units
S-ranks	Species Ranking for Rarity or Conservation Status
USB	Universal Serial Bus
VEC	Valued Environmental Component

SECTION 1 – BACKGROUND

Purpose of the Environmental Impact Statement (EIS)

The purpose of the EIS is to identify for all phases of the Project the important beneficial and adverse environmental effects associated with the Project, to identify measures to mitigate adverse effects, to determine the significance of residual environmental effects, and to consult with Indigenous groups and the public and respond to their concerns. The environmental effects and mitigations associated with the Project may be subject to a comprehensive evaluation through the licensing and permitting processes and regulatory oversight of federal and provincial government departments / agencies and municipalities / towns. Information provided in the EIS shall not be considered as redundant, but rather shall be used to inform other regulatory processes.

Purpose of the Guidelines

On June 13, 2024, the Minister of Environment and Climate Change (ECC) informed Champion Iron Mines Ltd. (the Proponent) that an EIS is required for the proposed Kami Iron Ore Mine (the Project). The purpose of this document is to identify for the Proponent the nature, scope and extent of the information and analysis required in the preparation of the EIS. Section 3 of these guidelines outlines in detail the content of the EIS to be prepared. The EIS is a statement of the Proponent's environmental conclusions and commitments related to the Project and must be explicitly endorsed by the Proponent.

Proposed Project Description

The Proponent is proposing to construct and operate an iron ore mine in Labrador West. The mine will be located approximately seven kilometres southwest from the Town of Wabush, and ten kilometres southwest from the Town of Labrador City. The mine will produce approximately 8.6 million tonnes of iron ore concentrate annually over a 26-year mine life. The Project will include an open pit mine, conveyors, ore stockpiles, processing

plant, ore concentrate load-out, access roads, workforce accommodations, and a railway corridor to connect to the Quebec North Shore & Labrador Railway. The EIS shall describe all components and sites that are needed to make the Project operational and viable.

SECTION 2 – PREPARATION AND PRESENTATION OF THE EIS

The EIS shall be written in terms understandable to the general public, however, where the complexity of the issues addressed requires the use of technical language, a glossary defining technical words and acronyms shall be included.

Where external sources of information or data are used, they shall be referenced within the body of the EIS and listed as References at the end. Where conclusions that are critical to the assessment of environmental effects are cited from other reports, the EIS shall provide sufficient detail of the original data and analysis to enable a critical review of that material and submit reference material as an appendix to the EIS. All conclusions regarding the receiving environment and predictions of the environmental effects shall be substantiated. The EIS shall reference, rather than repeat, information previously presented in other sections of the document. For clarity and ease of reference, the EIS shall include a Table of Concordance that cross-references the EIS guidelines so that points raised in the guidelines are easily located in the EIS. A Table of Contents, providing location of information in the final document by volume (if applicable), section, sub-section and page number, is required.

The EIS shall provide charts, diagrams, and maps wherever useful to clarify the text, including a depiction of how the developed Project sites will appear from both an aerial and terrestrial perspective. Where possible, maps shall use common scales to allow for comparison and overlay of mapped features and shall indicate common and accepted local place names. Geographic information shall be provided in standard Geographic Information System (GIS) mapping (digital) format, where feasible. The EIS and all associated reports and studies shall use System International (SI) units of measure and

terminology.

The EIS shall be a stand-alone document upon which a critical review can be undertaken. The Proponent shall explain and justify all methods used in the preparation of the EIS, including the use of scientific, engineering, Indigenous, local, and other knowledge. All hypotheses and assumptions shall be clearly identified and justified. All data collection methods, models, and studies shall be documented so that the analyses are transparent and reproducible. The degree of uncertainty, reliability, and sensitivity of models used to reach conclusions shall be indicated.

The EIS must address all requirements outlined in the Guidelines. Where the Proponent is of the opinion that the information is not required, it should contact the jurisdiction to confirm the rationale for not including it, prior to submitting the EIS. The rationale for not including the information must also be provided in the EIS. The Proponent should also identify in the EIS any changes made to the Project as originally proposed in the Registration document that may result in a different set of effects and may require a reconsideration of information requirements.

The information included in this document is not intended to be exhaustive - additional detail, studies, and/or examination of components may be required. The content of the EIS should be organized according to the format described in Section 3.

SECTION 3 - OUTLINE OF THE EIS

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 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 EIS 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.

PLAIN LANGUAGE SUMMARY

The Proponent must 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 must 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 should 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). Finally, the summary must also include all studies and plans required by the EIS guidelines and a summary of the fundamental conclusions of the EIS.

PROJECT INFORMATION

1.0 INTRODUCTION

1.1 Name of the Undertaking

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;
- principle 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.

1.3 Overview of the Undertaking

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 overburden stockpiles, waste rock stockpiles, and tailings management facility.

d) water management infrastructure proposed to collect contact and non-contact water, including dams, dikes, perimeter ditches, settlement ponds, and collection ponds;
e) supporting infrastructure, including access roads, workforce accommodations, a mine service area, freshwater pumping stations, an emulsion and exploration production plant and explosive storage, a crushing plant, transmission lines for local site distribution and telecommunication services; and
f) 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.

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.

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, 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-private, and public water supplies;
    viii. existing electrical infrastructure; and
    ix. navigation routes;
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. environmentally sensitive areas, such as national, provincial, and regional parks and reserves;

ii. ecologically and biologically significant areas (EBSA) and protected areas including proposed protected areas;
iii. wetlands, estuaries, lakes and rivers;
iv. habitats of federally or provincially listed species at risk, or species recommended for legal listing by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or the NL Species Status Advisory Committee, including critical habitat for the designated species and other sensitive areas; and
v. permafrost.

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).

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 should be established from the perspective of the Proponent and provide the context for the consideration of alternatives.

2.3 Project Description

The Proponent shall describe the scope of the Project for which the EIS is being

conducted including: the construction, operation, maintenance, foreseeable modifications of all Project-related facilities, and the closure, decommissioning and rehabilitation of Project sites.

2.3.1 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, 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 must be submitted for the physical features of the Project.

2.3.2 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 culverts, dams or bridge structures;

g) Project components for in-water works, such as placement of water crossing infrastructure, fording, removal of aquatic and/or stream side vegetation, infilling, 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 should 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;
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.

The following plans for the construction of the Project shall be included in the EIS and may be referenced here and included as appendices (see section 7 of the EIS Guidelines):

i. Emergency Response/Contingency Plan, including Wildlife Response Plan;
ii. Waste Management Plan;
iii. Water Management Plan;
iv. Transportation Impact Study and Traffic Management Plan;
v. Public Participation Plan;
vi. Workforce and Employment Plan;
vii. Benefits Agreement / Gender Equity, Diversity and Inclusion Plan (acknowledgment that a Newfoundland and Labrador Benefits Agreement remains in place for the Project);
viii. Environmental Protection Plan;
ix. Erosion and Sediment Control Plan;
x. Dam Safety Plan;
xi. Groundwater and Surface Water Monitoring Program;
xii. Environmental Effects Monitoring Plans; and
xiii. Species at Risk Mitigation and Monitoring Plans.

2.3.3 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 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;
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;
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;
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 or Newfoundland Power), 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 should be characterized for potential ARD/ML, as well as NORM risks; and
cc) site security and management of public access to Project components.

The following plans for the operation of the Project may be referenced here and included as appendices (see section 7 of the EIS Guidelines):

i. Emergency Response/Contingency Plan, including Wildlife Response Plan;
ii. Waste Management Plan;

iii. Water Management Plan;
iv. Transportation Impact Study and Traffic Management Plan;
v. Public Participation Plan;
vi. Workforce and Employment Plan;
vii. Benefits Agreement / Gender Equity, Diversity and Inclusion Plan (acknowledgement that a Newfoundland and Labrador Benefits Agreement remains in place for the Project);
viii. Environmental Protection Plan;
ix. Erosion and Sediment Control Plan;
x. Dam Safety Plan;
xi. Groundwater and Surface Water Monitoring Program;
xii. Environmental Effects Monitoring Plans; and
xiii. Species at Risk Mitigation and Monitoring Plans.

2.3.4 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;
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.

The following plans shall be included in the EIS for the decommissioning of the Project and the rehabilitation of Project sites, and may be referenced here and included as appendices (see section 7 of the EIS Guidelines):

i. Emergency Response/Contingency Plan, including Wildlife Response Plan;
ii. Waste Management Plan;
iii. Water Management Plan,
iv. Transportation Impact Study and Traffic Management Plan;
v. Public Participation Plan;
vi. Workforce and Employment Plan;
vii. Benefits Agreement / Gender Equity, Diversity and Inclusion Plan (acknowledgement that a Newfoundland and Labrador Benefits Agreement remains in place for the Project);
viii. Environmental Protection Plan;
ix. Erosion and Sediment Control Plan;
x. Dam Safety Plan;
xi. Groundwater and Surface Water Monitoring Program;
xii. Environmental Effects Monitoring Plans; and
xiii. Species at Risk Mitigation and Monitoring Plans.

2.3.5 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.

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) established and evolving developments in mining, production, storage, 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 non-conformity 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.

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-climate-change/services/environmental-emergencies-program/regulations/technical-guidelines.html.

The NPRI can be accessed at https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/report.html - pollutant-release-inventory/report.html.

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.

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. 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 Hydro (NL Hydro) 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 can 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 and fish habitat and fisheries;
- caribou, migratory birds, plants and species at risk and related habitats;
- existing mining operations and planned expansions;
- accessibility of land for potential future mineral exploration and mining;
- 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; and
- economy, employment and business.

The ensuing sections should focus on the components relevant to the key issues and effects of the Project.

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. 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 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 should be sufficient for the purposes of identifying and assessing the environmental effects.

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.

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, prevailing wind direction, and storm events;
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.

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) Railroad transportation associated with the Project, and outgoing ore products;
h) 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);
i) An assessment of critical and sensitive habitats for spawning, nursing, rearing, feeding, and migration by fish species; and
j) 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.

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;
c) Geology (bedrock and surficial), geomorphology and geochemistry;
d) Avifauna, including migratory birds protected by the **Migratory Birds Convention Act** (landbirds, and waterfowl) and species under provincial jurisdiction including raptors and upland game birds;
e) Species at risk and Species of conservation concern and their habitats, including, but not limited to, (Common nighthawk, Peregrine falcon, Short-eared owl, Bank swallow, Harlequin duck, bats, plants) including designated critical habitat under the **Endangered Species Act**, **Species at Risk Act** where applicable, and areas of conservation concern (e.g. environmentally sensitive areas, such as national, provincial, and regional parks and reserves, ecologically and biologically significant areas (EBSA);
f) Protected areas, conservation agreement lands and habitat enhancement projects); and
g) Human-wildlife interactions.

4.2.4 Land and Resource Use

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) Current and historic land use for mining, mineral exploration, and quarrying activities, including the presence of known mineral occurrences of potential economic significance;
c) Existing railroad facilities;
d) Domestic wood harvesting areas;
e) Tourism operators, outfitter/guiding operators, cabins, multi-use trails, and recreational activities (e.g. trails, scenic lookouts, hiking, hunting, fishing, swimming, berry picking, etc.);
f) Unique sites (e.g., scenic lookouts, geoparks, etc.);
g) Landscapes and viewscapes, including extent of developed and undeveloped

land;

h) Municipalities with municipal plans and development regulations; and
i) Land tenure, including, but not limited to, the following:
    i. Crown lands;
    ii. Private land ownership;
    iii. Land tenure under the **Quarry Materials Act**;
    iv. Land tenure under the **Mineral Act**: mineral licences, 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;
b) Paleontological resources;
c) Architectural resources;
d) Burial, cultural, spiritual and heritage sites; and
e) Natural attractions and tourism generating resources.

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 and unincorporated 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.

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.

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, 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 should 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;
- develop mitigation measures and follow-up monitoring programs where appropriate;
- identify and characterize the beneficial effects of the Project; and
- provide the data necessary to enable effective follow-up.

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 should consider how far back in time and how far into the future the study should be conducted. Rationale for the temporal boundaries chosen should be provided.

Baseline studies generally have the following format:

a) Rational/Objectives: In general, the baseline studies should 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.
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:
    a. 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;

b. All maps are to be presented using Geographic Information System (GIS) and associated shapefiles are to be provided in digital format;
c. Raw data shall be included in the Appendix in electronic tabular form and as digital geospatial data for GIS; and
d. Identification of all information sources.

Baseline Studies shall be prepared for at least the following components of the existing environment:

- Atmospheric Environment - Air Quality, GHG Emissions, Noise, Vibration and Light;
- Aquatic Environment - Water Resources and Use, Wastewater Discharge, Inland Fish and Fish Habitat, and Fisheries, Dam Safety;
- Terrestrial Environment – Landforms, Soil, Wetlands, Permafrost, Avifauna, Flora, Caribou, Species at Risk and Relevant Habitat, Protected Areas, and Areas of Conservation Concern; and
- Land and Resource Use - Traditional, Cultural, Recreational, and Industrial Land Use, Land Use Impact Assessment Report.

4.3.1 Atmospheric Environment

Atmospheric environment is defined as air quality and the acoustic and visual environments (e.g., noise, vibrations, light) within the vicinity of the Project. The atmospheric environment has been selected for a baseline study to understand the effects of the Project on human health and safety, ecological health and aesthetics, and potentially sensitive human and wildlife receptors.

The baseline study of the atmospheric environment shall be focused on, at a minimum, the following components:

a. air quality;

b. noise;
c. dust;
d. vibration; and
e. light.

a) The EIS shall assess the ambient air quality conditions in the vicinity of the mine, including air emission sources and dust lift-off (e.g., diesel generators, heavy equipment, roads, laydown areas, stockpiles, etc.). The study shall compare the observed air quality to acceptable standards and shall consider the effects of air quality on nearby human and animal receptors, including habitat quality.

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) Vibration from heavy equipment operation, blasting and the process plant may have an effect on the receiving environment, including human, fish and fish habitat, and animal receptors. The baseline study shall assess and report on ambient vibrations at the mine site, and shall provide the distance to, at a minimum, the following features:
    i. nearest temporary and permanent residential 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 and public water supplies;
viii. existing electrical infrastructure; and
ix. commercial fishing areas, and navigation routes..

Information on typical vibration sources, geographic extent and temporal variations (i.e. seasonal, day or night, etc.) shall be included. The baseline study shall compare observed vibration levels to acceptable standards.

d) 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 area;
b) Wastewater Discharge; and
c) Fish, Fish Habitat, and Fisheries.

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. 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 monitoring stations and collection of baseline data prior to the start of construction; and plans for the long-term operation and maintenance of real-time monitoring stations in consultation with the Department of Environment and Climate Change; 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.

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; and

viii. Groundwater and surface water monitoring plan to ensure the long-term security of the water resources. Hydrogeological assessment and groundwater monitoring program will require the drilling of appropriate number of monitoring and production wells.

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).

c) The Fish, Fish Habitat and Fisheries component of this baseline study shall describe, at a minimum, the limnology, hydrology, freshwater, fish species, associated habitats and habitat distribution that have the potential to be affected by Project activities. The baseline should describe local recreational fisheries, so the effects of near- or in-water works, increased access to fishing, etc. can be assessed. Effects should include direct and indirect, as well as temporary and permanent. Information may be based on available published data, community consultations, and results of on-site baseline surveys. Available data should be recent and applicable to this area (Western Labrador). Baseline surveys should be conducted in accordance with direction provided by the Department of Fisheries, Forestry and Agriculture (Wildlife Division) and the Department of Fisheries and Oceans Canada and shall be designed to:

    i. contribute to the development of mitigation measures to avoid non-compliance with the Fish and Fish Habitat Protection Provisions of the **Fisheries Act**;
    ii. 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 offsetting plans;

Furthermore, the Fish and Fish Habitat Baseline Study shall;

v. characterize fish, fish populations and habitat 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/library-bibliotheque/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, Caribou, Species at Risk and Relevant Habitat;
b. Flora;
c. Areas of Conservation Concern;
d. Wetlands; and
e. Permafrost.

a) Avifauna, Species at Risk and Relevant Habitat – These components of the baseline study shall provide:

i. Avifauna, including waterfowl, raptors, and migratory birds protected by the **Migratory Birds Convention Act** (MCBA) and their habitats, as follows:

ii. Birds protected under the MBCA are specifically named at Environment Canada, Birds Protected in Canada under the **Migratory Birds Convention Act** https://www.canada.ca/en/environment-climate-change/services/migratory-birds-legal- protection/convention-act.html. Preliminary data from existing sources should be gathered on year-round migratory bird use of the area (e.g., winter, spring migration, breeding season, fall migration). In addition to information obtained from the Atlantic Canada Conservation Data Centre (ACCDC) and naturalists, other relevant datasets should be consulted, such as those available from:

- Bird Studies Canada's "Nature Counts" web portal https://naturecounts.ca/nc/default/main.jsp
- the Quebec Breeding Bird Atlas 1984-89 (Les oiseaux nicheurs du Québec: atlas des oiseaux nicheurs du Québec méridional). More information is available at: https://www.atlas-oiseaux.qc.ca/; and
- other data and projects, based on consultation with government and other agencies, and Indigenous groups.

iii. Nightjar surveys should be conducted following the Canadian Nightjar Survey Protocols. Available at https://www.birdscanada.org/bird-science/canadian-nightjar-survey.

iv. The EIS should specifically provide a summary of the baseline information gathered from other sources (such as those identified above), and reference to the sources used throughout the EIS.

v. Existing data should be supplemented by surveys. Surveys should be designed with reference to the Canadian Wildlife Service's Technical

Report No. 508, A Framework for the Scientific Assessment of Potential Project Impacts on Birds (see reference). Available at https://publications.gc.ca/collections/collection_2010/ec/CW69-5-508-eng.pdf. Appendix 3 of the Framework provides examples of Project types and recommended techniques for assessing effects on migratory birds. Survey protocols for migratory birds should be reviewed by Environment and Climate Change Canada's Canadian Wildlife Service prior to implementation. Traditional survey techniques should be supplemented with alternative methods (e.g., acoustic monitoring, telemetry monitoring, etc.) to overcome factors that contribute to the detection (including low targets) probabilities (e.g., nighttime inclement weather, etc.)

vi. Bats – A pre-construction bat-monitoring program is required and must cover the full breeding and migratory period (April 15 – October 31) to obtain complete information on spring migration, summer resident bat activity, and fall migration. Acoustic monitoring must cover a broad range of the entire study area to capture the spatial distribution of infrastructure and must incorporate varied suitable habitats for bats. Autonomous recording units must be programmed to record throughout each night, from 30 minutes before sunset until 30 minutes after sunrise. Acoustic monitoring should occur at a range of heights, from 1.5 metres above ground to as high as possible. Call files must be analyzed and manually vetted by a qualified bat biologist. Summarized data and raw call files must be included in the EIS. The Proponent must consult with the provincial Department of Fisheries, Forestry and Agriculture - Wildlife Division during development of the bat-monitoring program.
vii. Avifauna SAR: information related to targeted surveys within the regional /local study area for species including, but not limited to, Common Nighthawk, Peregrine Falcon, Short-Eared Owl, Harlequin Duck and Bank Swallow.
viii. Caribou: A pre-construction baseline survey for caribou must be conducted and a report must be included in the EIS. Further surveys may

be required based on the information provided. Survey protocols must be obtained from the Department of Fisheries, Forestry and Agriculture - Wildlife Division.

b) Flora – The Proponent must conduct an additional plant survey and submit an updated vegetation report to the satisfaction of FFA, including, but no limited to: a focus on species that were identified in the previous 2013 survey as being of Conservation Concern (S1 to S2S3, also SH, SNR and SU, as well as species that do not have a Labrador rank); digital geospatial data of the ecological land classification polygons, survey areas and plant locations; detailed description of the methodology used to develop the ecological land classification; and digital photos of all species of Conservation Concern, as well as dried specimens of species of Conservation Concern in groups difficult to identify, such as ferns and allies, graminoids, aquatics, etc.

c) Areas of Conservation Concern - this component of the baseline study shall identify, at a minimum, environmentally sensitive areas such as national, provincial, and regional parks and reserves; ecologically and biologically significant areas (EBSA); protected areas; conservation agreement lands; and habitat enhancement projects. The baseline study shall demonstrate the interaction of the Project boundaries with the environmentally sensitive areas.

d) Wetlands – this component should focus on the wetlands within the vicinity of the Project that could be affected by the Project. They have been included as a VEC because of their importance to Project planning and potential to be affected by Project Activities. Wetlands within the Project areas shall be classified according to the Canadian Wetland Classification System (National Wetlands Working Group 1997). Efforts should focus on collection of data for wetlands with the greatest potential to be affected (i.e., within the Project footprint), while collecting data at the appropriate scale for regional comparisons. An overview of the key plant communities and animals that rely on wetlands shall be presented. Wetlands may

be affected by Project activities associated with the mine's infrastructure that will result in clearing of or disturbance to natural vegetation, site drainage or ground disturbance (e.g., grubbing, grading, and excavation).

e) Permafrost – this component is to provide high-resolution mapping of permafrost in the Project area, including hazard/high-risk permafrost mapping information. Information is required on how ground disturbances and vegetation clearing, grubbing, blasting, excavation, and heavy equipment activities associated with construction and operation of the Project as well as road use, snow clearing and piling, over the life span of the Project will affect permafrost in the region and in consideration of climate change. Identification of potential effects on carbon stores if permafrost will be disturbed must also be included.

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 and Recreational Land Use;
b) Municipal Land Use; and
c) Industrial Land Use.

a) Land use may be positively or negatively affected by changes to the physical and socioeconomic environment. This baseline study shall assess traditional, cultural and recreation land use in the vicinity of the proposed mine. Engagement with Indigenous groups, the public, municipalities, local service districts, community groups, organizations and known user groups, including surveys and interviews, will inform the baseline study. Specific land use activities, the frequency of those activities, and geographic areas of use shall be documented in the baseline study, and overlaps with the study area of the mine site shall be mapped or otherwise illustrated, and may include berry picking, plant harvesting, recreational fishing, hiking, mountain biking, trail running, snowshoeing, snowmobiling and snowmobile

trails, alpine and nordic skiing, parks, camping and recreational use of waterbodies for boating, swimming, etc. This information is needed to understand the importance of traditional, cultural and recreational land use to Indigenous groups, local residents and other users, and for the development of measures to mitigate the effects of the Project on those affected. The baseline study shall describe existing provincial park use and activities in the area, including, but not limited to, the following:

i. Pike Lake, and
ii. Duley Lake Provincial Park.

b) The Municipal Land Use study shall assess land use interactions of VEC's with respect to land use zoning. Mapping of Project components as they interact with land use zoning within a given planning area is required. The study shall provide an outline of the permitting process and measures that may be taken to mitigate interactions with zoning requirements.

c) The proposed areas for mine overlap/lie in close proximity to existing industrial land use. This baseline study shall describe, at a minimum, the following industrial land use within or adjacent to the Project study areas, and the interaction of the Project with those industrial uses:

i. Existing Electrical Grid; and
ii. Mining and Mineral Exploration Activity.

i. Existing Electrical Grid

The baseline study shall describe the province's existing electrical transmission infrastructure in the study area and shall include, but not be limited to, a discussion of the following:

- components of the province's existing electrical infrastructure in the study area;
- technical features and specifications of all major equipment to inform operational considerations with respect to interconnection to the province's electrical grid and

the potential need for further development of existing facilities to integrate the Project;

- the geographical footprint and routing to assess proximity to existing infrastructure and any consequential risk of interference; and
- demonstration that access to the energy required from the electrical grid has been secured from NL hydro.

ii. Mining and Mineral Exploration Activity

The baseline study shall describe overlap of the study area, as applicable, with areas that have been the focus of past mineral exploration efforts, recognized mineral occurrences of potential economic significance areas that may be associated with other mining operations, proposals to mine, or proposals to expand mine-related infrastructure, infrastructure associated with a mining operation, areas of past or present quarrying, and areas underlain by deposits of high quality sand and gravel.

This information shall be used to assess the effects of the Project on current and potential future mining, mineral exploration and quarrying, and measures to mitigate the effects.

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 should 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, non-government organizations, the public and others.

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.

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. 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 should be designated as such. Predicted environmental effects (positive and negative, direct and indirect, and short and long-term) shall be defined quantitatively and qualitatively, 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.

Predicted environmental effects of the Project shall include, but not be limited to, a comprehensive analysis of the following:

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 should include a BACT study/analysis where the EIS demonstrates the Project will employ BACT. A range of machinery and equipment options should 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 should 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 include a plan by which net zero GHG emissions may be realized or maximum GHG

reductions will be otherwise realized by 2050.

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, on-site 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.

The EIS shall include a long-term capital plan through which the Proponent demonstrates how the facility will reduce its emissions over time with the objective of achieving net zero by 2050 or otherwise maximizing annual GHG reductions between start-up and 2050.

The effects of the Project on provincial GHG emissions levels must 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 must 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 should 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 should be reported separately from GHG emissions inside the Project's boundary. GHG emissions should 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.

b. Aquatic Environment - Effects of the Project on surface water bodies, wetlands, permafrost and groundwater aquifers, including, but not limited to, the following:
    i. A description of the duration, frequency, magnitude and spatial extent of any effects to nearby surface and groundwater quality and quantity resulting from the Project activities, including potential effects on recreational and other users of nearby surface water and groundwater aquifers (e.g., ice cover on nearby lakes);
    ii. Estimation of water inflows into the open pits and withdrawal rates from the open pits;
    iii. Assessment of a hydrological budget, including runoff, evapotranspiration and recharge rates under the various operation phases of the mine;
    iv. 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;
    v. effects of water withdrawal for the open pit on known contaminated sites;
    vi. 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;

vii. effects of wastewater discharge and any treatment needed for the mine or other desired use, on receiving environment;

viii. capacity of the receiving environment to manage wastewater discharge from the mine; and

ix. effects on existing and potential commercial, recreational, and Indigenous fisheries.

c. Aquatic Environment - Effects of the Project on 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:

    i. 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;

    ii. 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; and

    iii. in-water works such as: fording; removal of aquatic and/or stream side vegetation; installation, maintenance and removal of culverts, bridges, dams and water crossings; infilling; dewatering; and changes to natural flow regime.

d. Terrestrial Environment - Effects of the Project on flora and fauna (including bats,

plants, migratory birds, birds protected by the MCBA, caribou, species at risk 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 species at risk and species of conservation concern; and
v. noise, vibrations and light, and in particular effects on feeding, breeding, movement and migratory patterns.

e. Land and Resource Use - Effects of the Project on land use and tenure, including, but not limited to, the following:

i. 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;
ii. 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;
iii. existing land tenure, including Crown land tenure and private land ownership and restrictions for Project development associated with existing land tenure;
iv. municipal zoning and development control compliance;
v. tourism establishments and operations; and
vi. potential effects of vibrations from mine operations on existing land and facilities and operations.

f. Land and Resource Use - Effects of the Project on existing electrical infrastructure

and the potential implications for the overall provincial and regionally interconnected transmission system, including, but not limited to, the following:

i. effects on cost and access to electricity and other goods and services for provincial residents;
ii. 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;
iii. details regarding the geographical footprint and routing to assess proximity to existing infrastructure and any consequential risk of interference;
iv. details related to NL Hydro system impact studies which will determine the reliability and operating effects of the Project on the existing electrical system;
v. 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; and
vi. details on how additional transmission infrastructure will be brought forward as a separate project for required approvals.

Ongoing consultation with NL Hydro should occur for the above requirements, as needed, in the planning for this Project.

g. Communities - Effects of all phases of the Project on human health and quality of life, including, but not limited to, the following:
    i. vibrations, noise emissions and noise levels, including sustained low frequency noise;
    ii. light emissions;
    iii. dust and air emissions, including atmospheric dispersion modelling of air emissions from the Project and the results compared to acceptable standards;

iv. wastewater;
v. private, semi-private and public drinking water systems;
vi. domestic wood cutting areas;
vii. traditional, cultural and recreational activities;
viii. developed areas; and
ix. viewscapes.

h. Communities - The EIS shall assess the boomtown effects of the Project on community health and services, including, but not limited to, the following factors:
    i. food security;
    ii. employment and employment equity and diversity including under-represented groups;
    iii. business capacity relative to goods and services;
    iv. housing, accommodations and property values;
    v. health care and community services, including mental health and addiction services and social programs;
    vi. fire and emergency services;
    vii. education and training services and facilities;
    viii. municipal infrastructure or services to be used by the Project and the capacity of the infrastructure and services to support the Project; and
    ix. green spaces.

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 species at risk 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.

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 must be included. The EIS shall consider the cumulative environmental effects for the life of the Project where those overlap with those 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 temporary dwellings, 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 should 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; and
d) describe the mitigation measures and determine the significance of the residual cumulative effects.

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) should be considered in the planning for this Project.

7.0 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 should be discussed and evaluated. The EIS, where possible, should refer to similar situations where the proposed mitigation has proven to be successful. Mitigation failure should 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.

Mitigation measures shall be described for the effects identified in section 6.2 of the EIS during construction, operation and maintenance, decommissioning and rehabilitation.

Other mitigation measures that were considered may be identified, and the rationale for rejecting these measures explained. 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 should 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.

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. 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;
   ii. effects of water withdrawal on surface- water flow, groundwater movement and aquifer recharge zones;
   iii. effects of water withdrawal for the mine on known contaminated sites;
   iv. 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;
   v. effects of wastewater discharge from any treatment needed for the mine on receiving environment;
   vi. capacity of receiving environment to manage wastewater discharge from the mine;
   vii. effects of surface water collection and discharge on receiving environment; and

   effects on existing and potential commercial, recreational, and Indigenous fisheries.

c) Aquatic Environment - The EIS shall describe measures to mitigate the adverse environmental effects of all phases of the Project on fish and fish habitat, including species of special concern, threatened and endangered species, and rare species associated with, but not limited to, the following:

   i. 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;

ii. 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;
iii. in-water works during construction such as: fording; removal of aquatic and/or stream side vegetation; installation of culvert, bridges and water crossing infrastructure; infilling; dewatering; and changes to natural flow regime;
iv. measures to mitigate flow changes resulting from dewatering activities, groundwater management, waste management, and upstream and downstream diversions;
v. measures to mitigate flow changes resulting from dewatering activities, groundwater management, waste management, and upstream and downstream diversions;
vi. measures to avoid possible death of fish and/or harmful alteration, disruption or destruction of fish habitat; and
vii. 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.

d) 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, species at risk 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 species at risk and species of conservation concern;
iv. direct and indirect effects on individuals and habitat quality due to accidents and malfunctions during all Project phases; and
v. noise, vibrations and light, and in particular effects on feeding, breeding, movement and migratory patterns.

e) 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, 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;
    ii. 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;
    iii. potential effects of existing mining operations on the Project, specifically, but not limited to, the effects of blasting from mining operations;
    iv. existing land tenure, including Crown land tenure and private land ownership and restrictions for Project development associated with existing land tenure (Appropriate title must be obtained for any Crown Lands required for this Project);
    v. municipal zoning, permitted/discretionary use in designated zones, and permissibility of Project features that overlap municipal zones;
    vi. tourism establishments and operations; and
    vii. outdoor recreation.

f) Land and Resource Use - Measures that will be undertaken to mitigate the effects of the Project on existing electrical infrastructure and the potential implications for the overall provincial and regionally interconnected transmission system, including, but not limited to, the following:

i. effects on cost and access to electricity and other goods and services for provincial residents;
ii. details regarding the geographical footprint and routing to assess proximity to existing infrastructure and any consequential risk of interference;
iii. system impact studies to determine the reliability and operating effects of the Project on the existing electrical system; and
iv. 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.

g) Communities - Measures to mitigate adverse effects of the Project on human health and quality of life, including, but not limited to, the following:
    i. vibrations, noise emissions and noise levels, including sustained low frequency noise;
    ii. light emissions;
    iii. dust and air emissions;
    iv. domestic wood cutting areas;
    v. traditional, cultural and recreational activities including recreational and Indigenous fisheries;
    vi. developed areas;
    vii. viewscapes; and
    viii. private, semi-public or public drinking water.

h) Communities - Measures to mitigate adverse effects of the Project on community health and services including, but not limited to, the following:
    i. food security;
    ii. employment and employment equity and diversity including under-represented groups;
    iii. business capacity relative to goods and services;

iv. housing, accommodations and property values;
v. health care and community services, including mental health and addiction services and social programs;
vi. fire and emergency services;
vii. education and training services and facilities;
viii. municipal infrastructure and/or services to be used by the Project and the capacity of the infrastructure and services to support the Project;
ix. green spaces; and
x. outdoor recreation and tourism.

7.1 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,
- 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):
    - Species at Risk Mitigation and Monitoring Program (the information provided in this plan may be used to inform applications for subsequent permits post environmental assessment),
    - Groundwater and Surface Water Monitoring Program,
    - Real-time Water Quality Monitoring Program, and

- Avifauna Mitigation and Monitoring Program.

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;
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-private 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 must 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 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.

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 oversized and overweight loads during the lifetime of the Project;
b) frequency of travel over proposed routes;
c) 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;
d) 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;
e) 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;
f) identification of provincial access and right of way permit requirements as expected over the life of the Project; and
g) 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.

7.2.5 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, and with the Office of Women and Gender Equality. The employment plan shall include, but shall not be limited to the following information for each phase of the Project:

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;
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 should also include clarification on which positions would be direct hires, and which would be from companies contracted to carry out Project work; and

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.

7.2.6 Benefits Agreement / Gender Equity, Diversity and Inclusion Plan

The Proponent must 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 must also include a Gender Equity, Diversity and Inclusion Plan (GEDIP) that meets the approval of the Ministers of IET and Minister responsible for Women and Gender Equality. The noted approvals are required prior to the commencement of Project construction.

7.2.7 Domestic Wood Cutting Consultation Plan

The Project is located inside Domestic Cutting Block CC22503. Timber harvested during road construction and clearing for this Project should 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 the Department of Fisheries, Forestry and Agriculture.

7.2.8 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.

7.2.9 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 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.

7.2.10 Environmental Effects Monitoring Programs (EEMPs)

The EIS shall describe the environmental and socio-economic monitoring and follow-up programs to be incorporated into construction, operation and maintenance, decommissioning and rehabilitation activities. Should the Project proceed EEMPs shall be developed in consultation with government departments/agencies and other stakeholders. The purpose of the follow-up and monitoring program 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 EIS identifies unforeseen adverse environmental effects, the EEMP shall commit to adjusting existing mitigation measures, or, if necessary, develop new mitigation measures. The proposed approach for follow-up and monitoring 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;
f) the approaches and methods for monitoring the cumulative effects of the Project with existing and future developments in the Project area;
g) procedures to assess the effectiveness of follow-up and monitoring programs, mitigation measures and recovery programs for areas disturbed by the Project; and
h) 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 must include the following:

7.2.10.1 Species at Risk Mitigation and Monitoring Plan

A Species at Risk Mitigation and Monitoring Plan must be developed in consultation with the Department of Fisheries, Forestry and Agriculture (FFA) for all potentially impacted species listed under the provincial **Endangered Species Act** or the federal **Species at Risk Act** and included in the EIS. The plan must include mitigation, monitoring, and adaptive management frameworks for all possible impacts of species at risk including, but not limited to, plants, bats and provincially managed at risk avian species such as raptors. Provincially managed avian species may be addressed under the Avifauna Mitigation and Monitoring Plan (see section 7.8) but should be referenced in this plan. Plant species identified as rare, but not listed under the **Endangered Species Act** should also be described.

The federal **Species at Risk Act (SARA)** contains provisions requiring that measures be taken to monitor adverse effects of a Project on wildlife species or critical habitat of a species that is designated as threatened, endangered, or extirpated. If potential adverse effects on a listed wildlife species or its habitat are identified, a monitoring plan must be developed to identify the circumstances under which corrective measures may be needed to address any issue or problem identified through the monitoring (i.e., if unanticipated effects occur or the importance of effects is greater than anticipated). The monitoring plan should clearly describe how government departments responsible for the species in question would be engaged in reviewing proposed adaptive management measures, in the event that mitigation measures are not effective.

7.2.10.2 Groundwater and Surface Water Monitoring Program

A groundwater and surface water monitoring plan must be described that ensures the long- term security of the water resources, and must 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 should be included.

7.2.10.3 Avifauna Mitigation and Monitoring Plan

An Avifauna Mitigation and Monitoring Plan (including Migratory Birds, raptors, upland game birds and Species at Risk) should be developed in consultation with Department of Fisheries, Forestry and Agriculture (FFA) and Environment and Climate Change Canada's Canadian Wildlife Service (ECCC-CWS) and included in the EIS. The plan should include mitigation measures, monitoring, and adaptive management frameworks for minimizing impacts of the Project on Avifauna.

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. The EIS will, for ease of review, include a matrix of the environmental effects, proposed mitigation, and residual adverse effects.

9.0 ASSESSMENT SUMMARY AND CONCLUSIONS

The EIS shall summarize the overall findings of the environmental assessment, with

emphasis on the key environmental issues identified.

10.0 PUBLIC CONSULTATION

Under Section 58 of the **Environmental Protection Act**, during the preparation of an environmental impact statement, 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 the 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 scheduled with the public under section 58 of the **Act** not fewer than 7 days before that scheduled meeting.

These concerns 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.

11.0 ENVIRONMENTAL PROTECTION PLAN (EPP)

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.

12.0 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.

13.0 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.

14.0 COMMITMENTS MADE IN THE EIS

The EIS is a statement of the Proponent's environmental conclusions and commitments related to the Project and must 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 must be cross-referenced to the section of the EIS where it has been made.

15.0 COPIES OF REPORTS

The EIS should be prepared according with these guidelines and once completed, the Proponent shall submit printed and electronic copies of the EIS to the Department of Environment and Climate Change 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 required.

Stand-alone studies associated with the EIS, including baseline studies and all plans required in section 7 of the EIs guidelines (above) shall be included in the body of the EIS or as appendices.

The Proponent shall make printed copies of the EIS available at public libraries or viewing centers in the Project vicinity, to be approved by the Department of Environment and Climate Change.

APPENDIX A

Environmental Protection Act, 2002

Section 57 - Environmental Impact Statement

57. An environmental impact statement shall be prepared in accordance with the guidelines, and shall include,

a) a description of the undertaking;

b) the rationale for the undertaking;

c) the alternative methods of carrying out the undertaking and alternatives to the undertaking;

d) d) a description of the

   i. present environment that will be affected or that might reasonably be expected to be affected, directly or indirectly, by the undertaking, and

   ii. predicted future condition of the environment that might reasonably be expected to occur within the expected life span of the undertaking, if the undertaking was not approved;

e) a description of the

   i. effects that would be caused, or that might reasonably be expected to be caused, to the environment by the undertaking with respect to the descriptions provided under paragraph (d), and

   ii. actions necessary, or that may reasonably be expected to be necessary, to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment by the undertaking;

f) an evaluation of the advantages and disadvantages to the environment of the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking;

g) a proposed set of control or remedial measures designed to minimize any or all significant harmful effects identified under paragraph (e);

h) a proposed program of study designed to monitor all substances and harmful

effects that would be produced by the undertaking; and

i) a proposed program of public information.

APPENDIX B

Department of Environment and Climate Change REQUIREMENTS FOR PUBLIC MEETINGS/INFORMATION SESSIONS

Purpose: To clarify for Proponents and the public, the format, scheduling, number, notification requirements, etc. for public consultations in relation to undertakings required under the **Environmental Protection Act, SNL 2002 cE-14.2**, (Section 58) to prepare an Environmental Impact Statement (EIS).

1. The Proponent is required to conduct public meeting(s) (information sessions) under an EIS process as specified in the legislation. This requirement shall be specified in the Project EIS guidelines.
2. A public meeting shall normally be held in the largest local population centre within the Project area. This shall be the minimum requirement. In addition, when demonstrated public interest or concern warrants, additional meetings may be required. This may take the form of additional meetings to be held in major regional or provincial population centres, or possibly additional meetings within the original community. Such requirements are at the discretion of the Minister based on consensus advice from the environmental assessment committee (EAC) chairperson and based upon public interest as evidenced by public submissions received.
3. The format of the public meeting may be flexible, and the Proponent is free to propose a suitable format for approval by the EAC. The format may range from formal public meetings chaired by the Proponent or representative with presentations followed by questions and answers, to a less formal open house forum where the public may discuss the proposal with the Proponent or representatives. Other formats may be considered by the EAC. The purpose of the public information session is to provide information concerning the proposed undertaking to those who may be affected, and 2) to record the concerns of the local community regarding the undertaking. Any format must meet these

objectives.

4. The Proponent must ensure that each public meeting is advertised in accordance with the following specified public notification requirements, which shall form part of the Project guidelines when appropriate (Proponent to substitute appropriate information for italicized items).

PUBLIC NOTICE

Public Information Session on the Proposed

Name of undertaking
Location of undertaking

shall be held at
Date and Time Location

This session shall be conducted by the Proponent,
Proponent name and contact phone number, as part of
the environmental assessment for this Project.

The purpose of this session is to describe all aspects of the proposed Project, to describe the activities associated with it, and to provide an opportunity for all interested persons to request information or state their concerns.

ALL ARE WELCOME

- Minimum newspaper ad size: 2 columns wide and minimum posted ad size: 10 cm x 12 cm.
- Minimum newspaper ad frequency (to be run in newspaper(s) locally distributed within each meeting area or newspaper(s) with the closest local distribution area):
    - for dailies, the weekend between 2 and 3 weeks prior to each session and the two consecutive days prior to each session, or
    - for weeklies, in each of the two weeks prior to the week in which the session is to be held.
- Minimum posted ad coverage: In the local Town or City Hall or office, and the local post office, within the Town or City where the meeting is to be held, to be posted continually for not less than 15 days prior to each session. The Proponent is advised to request that the ad and/or notice of the meeting be placed on the community web site, for each community within/adjacent to the Project study area, to be posted continually for not less than 15 days prior to each session.
- Any deviation from these requirements for any reason must receive the prior written approval of the Minister. The Proponent must provide the chairperson of

the EAC with copies of advertisements and public notices.

- The Proponent is advised to propose other effective means of public notice, including social media announcements, for the Minister's consideration and approval.