Red Chris Block Cave Project - Production Phase

Application for an Amendment to Environmental Assessment Certificate #M05-02

Front Matter

Submitted by:

Newcrest Red Chris Mining Limited

Document Number:

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Prepared by:

SLR Consulting (Canada) Ltd.

December 13, 2024

Revision: 1


Newmont™

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Table of Concordance

Table 1: Table of Concordance Between the Amendment Application Information Requirements and the Production Phase of the Block Cave Project Environmental Assessment Certificate Amendment Application

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
1.0	**Project Overview**			
1.0	Project Overview	Newcrest Red Chris Mining Ltd (NRCML), a wholly owned subsidiary of Newmont Corporation (Newmont), is the operator of the Red Chris Porphyry Copper-Gold Mine ("Red Chris" or the "Mine"), an open pit mine producing a mineral flotation concentrate of copper and gold. In 2004, NRCML received an Environmental Assessment Certificate (EAC) #M05-02. NRCML proposes to transition from surface mining at Red Chris to underground mining by executing Block Cave Amendment, the Production Phase of the Block Cave Project (the Project). Block caving is proposed as the new method because it requires very limited modifications to surface disturbance, which, in turn, is expected to lead to limited environmental effects. NRMCL also proposes to amend EAC #M05-02 to remove the Klappan River as a potential water source for the Project.	Project Overview	Section 1.0
1.0	Project Overview	To support block cave mining, NRCML will use a phased approach, as follows: • Exploration Phase (complete); • Pre-Production Phase (currently underway); and • Production Phase (the Project).	Underground Infrastructure	Section 1.4.7
1.0	Project Overview	For the purposes of this Amendment to Environmental Assessment Certificate (EAC) #M05-02 (the Amendment Application), the components and activities subject to an environmental assessment are the ones associated with the Project, which includes the development of underground infrastructure to support block cave mining and to cease surface mining, modifications to the ore processing plant to process up to 15 Million tonnes per annum (Mtpa) of ore, and other modifications to surface and underground infrastructure required to support the Project. Production of ore from block caving is planned to continue for approximately 12 years and until the existing tailings storage facility will have reached its permitted capacity. The Project will allow NRCML to access higher grade ore known to exist below the permitted open pit shell. The Project will increase the rate of production, improve the economic viability of Red Chris, and decrease greenhouse gas (GHG) emissions when compared to the current open pit operation. • The Amendment Application must provide a high-level overview of the existing Mine and the proposed Project, including:	Project Overview	Section 1.0
1.0	Project Overview	• A statement of the general location of the Mine, the Project, and names of the nearest communities;	Red Chris Location	Section 1.2
1.0	Project Overview	• The relevant history of the Mine; and	History of the Red Chris (1968-1994) Background (pre-Red Chris Mine 1994-2005) Development of Red Chris (2005-2023)	Section 1.3.2 Section 1.3.2.1 Section 1.3.2.2
1.0	Project Overview	A description of proposed amendments to the EAC	Project Overview	Section 1.0
1.0	Project Overview	• The objective of the Amendment Application.	Project Overview	Section 1.0
1.1	Overview of the Certificate Holder	• The Amendment Application must:	Overview of the Certificate Holder	Section 1.1

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
1.1	Overview of the Certificate Holder	• Describe the Certificate Holder, including company history, type of company or organization, affiliations, headquarter location, corporate and management structures;	Overview of the Certificate Holder	Section 1.1
1.1	Overview of the Certificate Holder	Provide contact information for Certificate Holder representatives for the Project including name, address, phone, and email; and	Primary Proponent Contact	Section 1.1.2
1.1	Overview of the Certificate Holder	• Identify the main contractor/company responsible for the preparation of the application and contributing authors.	Amendment Application Authors	Section 1.1. 3 Table 1-1
1.2	Red Chris Location	• The regional and local context of the proposed Project is provided in Figure 1-1 and Figure 1-2. An overview of Project activities and infrastructure must be provided in the Amendment Application, including descriptions of the following features:	Red Chris Location	Section 1.2 Figure 1-1 Figure 1-2
1.2	Red Chris Location	• Project site, including the latitude and longitude coordinates of the approximate centre of the permitted mine area (PMA);	Red Chris Location	Section 1.2
1.2	Red Chris Location	• Project footprint, including the PMA;	Red Chris Location	Section 1.2 Figure 1-2
1.2	Red Chris Location	• Project access route and transportation corridor used by the Mine;	Red Chris Location	Section 1.2
1.2	Red Chris Location	• Environmentally sensitive areas, such as national, provincial, and regional parks, ecological reserves, marine protected areas, marine refuges, ecologically and biologically sensitive areas, wildlife habitat areas, old growth management areas, ungulate winter ranges, wetlands, estuaries, habitats of federally or provincially listed species at risk, and other identified sensitive areas surrounding the Project;	Red Chris Location	Section 1.2
1.2	Red Chris Location	• Distance to provincial and territorial borders including Alberta, the Yukon Territory, and the Northwest Territories;	Red Chris Location	Section 1.2
1.2	Red Chris Location	• Distance to the Alaska / Canada border;	Red Chris Location	Section 1.2
1.2	Red Chris Location	• Local and First Nation communities, including distance to these communities;	Red Chris Location	Section 1.2
1.2	Red Chris Location	• First Nation traditional territories and/or consultation areas, Treaty and/or Title lands, and Reserve lands; and	Red Chris Location	Section 1.2
1.2	Red Chris Location	• Summary of culturally and locally important features of the landscape.	Red Chris Mine Site Context and Tahltan Continuum	Section 1.3
1.2	Red Chris Location	The following information must be included on maps, as applicable: • Onsite and offsite Project components that are meaningfully different from what is currently in use by the Mine; • First Nation traditional territories and/or consultation areas, Treaty and/or Title lands, and Reserve lands; • Local and First Nation communities; • Provincial and territorial boundaries, as applicable; • Parks and protected areas; and • Legally protected or identified wildlife habitat.	Red Chris Location	Section 1.2 Figure 1-1

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
1.2	Red Chris Location	Updated shapefiles and .kmz files for the Project must be provided and include: • Approved existing mining area footprint; • Project footprint associated with change in mining techniques; • Known or proposed Project components; • Project access and transport routes; and • Boundaries of a Local Assessment Area (LAA) and Regional Assessment Area (RAA) for each valued component (VC), in alignment with the Provincial Environmental Assessment Office (EAO) Effects Assessment Policy.	Provided under separate cover	
1.3	Historical Context of the Red Chris Mine Site	To support a narrative of the understanding of the Project within the context of the Tahltan Nation (Tahltan) continuum, an overview of the ancient and historical context of the Mine must be provided. This section of the Amendment Application must introduce the following sections and provide an overview of the historical and background context of the Mine.	Red Chris Site Context and Tahltan Continuum	Section 1.3
1.3.1	Ancient and Historic Context	• This section of the Amendment Application must provide the context for the ancient and historic conditions (as will be defined by Tahltan at the Mine, as defined by the PMA (*Mines Act* Permit M 240). The context of this section will remain at a regional scale to provide general site context.	Ancient and Historical Context	Section 1.3.1
1.3.2	History of Red Chris	• This section of the Amendment Application must provide a brief introduction to the subsequent sections that will provide an overview the historical context of Red Chris.	History of Red Chris (1968-1994)	Section 1.3.2
1.3.2.1	Background (Pre-Mine 1994-2005)	• The background conditions for the Amendment Application must refer to the site conditions pre-Mine, for which technical studies were completed and are available. This section will provide an overview of the background conditions within the region prior to the Mine development, largely drawing on information as presented in the Red Chris Copper-Gold Porphyry Project (AMEC 2004) EAC Application (Original Application).	Background (Pre-Red Chris Mine 1994-2005)	Section 1.3.2.1
1.3.2.2	Development of Red Chris Mine (2005-2023)	• An overview of the evolution of the Mine between 2005-2023 must be included for additional context between background conditions (2005) and existing conditions (2023).	Development of Red Chris (2005-2023)	Section 1.3.2.2
1.4	Existing and Permitted Components and Activities	The Mine site is an existing operational open pit mine with components and activities that have been built and permitted. This section of the Amendment Application must provide an overview of the existing and permitted (2023) components and activities at the Mine and along the transportation corridor to Stewart, British Columbia (B.C). • This section of the Amendment Application must present the existing Mine components and associated activities, including:	Existing and Permitted Components and Activities	Section 1.4
1.4	Existing and Permitted Components and Activities	• Open Pit Area	Open Pit Area	Section 1.4.1
1.4	Existing and Permitted Components and Activities	• Rock Storage Area	Rock Storage Area	Section 1.4.2
1.4	Existing and Permitted Components and Activities	• Process Plant	Process Plant	Section 1.4.3
1.4	Existing and Permitted Components and Activities	• Tailings Impoundment Area (TIA)	Tailings and Water Management	Section 1.4.4

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
1.4	Existing and Permitted Components and Activities	• Power supply	Power Supply	Section 1.4.5
1.4	Existing and Permitted Components and Activities	• Ancillary Infrastructure (e.g., mine access road, camp and administrative area, explosives facility, quarries, and construction laydown areas);	Supporting Infrastructure and Activities	Section 1.4.6
1.4	Existing and Permitted Components and Activities	• Block Cave infrastructure (i.e.., ventilation raises, Naghā portal and decline, conveyor portal and decline;)	Underground Infrastructure	Section 1.4.7
1.4	Existing and Permitted Components and Activities	• Regional Infrastructure (e.g., power supply, transport of personnel, and concentrate); to the facilities owned and operated by Stewart Bulk Terminals Ltd at the Port of Stewart, which provide storage and loading infrastructure; and	Regional Infrastructure	Section 1.4.9
1.4	Existing and Permitted Components and Activities	• A high-level overview of the current site-wide closure plan.	Reclamation and Closure	Section 1.4.8
1.5	Description of the Project	The Amendment Application must describe how the proposed Project will be incorporated into the existing Red Chris operations. The Amendment Application must provide a description of Project components determined to be within the scope of the Amendment Application, including figures, of both onsite and offsite facilities and associated activities. The Amendment Application must also describe requested changes to the existing EAC #M05-02 and include a description of the proposed changes to the EAC, along with how existing infrastructure will be used for the Project. The Amendment Application must provide a summary of any changes that have been made to the Project since submission of the Project Description (December 7, 2023), including the rationale for the changes. Additionally, a draft Certified Project Description will be submitted to support review of the Amendment Application.	Description of the Project	Section 1.5 Figure 1-6
1.5.1	Purpose and Rationale	This section must describe the purpose of the Project and the rationale of what is being proposed.	Purpose and Rational of the Project	Section 1.5.1

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
1.5.2	Project Stages for Assessment	The Amendment Application must provide an overview of the various project stages associated with transitioning from the current surface to the proposed underground mining technique. The Amendment Application must provide an overview of the Project life cycle, including the timing and duration of each stage, and the total lifespan of the Mine with the underground mining technique. Stages of the Project will include construction, operations, closure and post-closure. The Project can be split into these stages: • Construction: Construction includes underground development (large chambers, ventilation raise, extraction and undercut layers), the installation of underground infrastructure, expansion of the process plant, expansion of the electrical substation and accommodations camp, and pre-conditioning of the ore zone. Late stages of underground development will generate ore that will be stockpiled. • Operations: The mill will process ore at an approximate increased rate of 15 Mtpa; which will be fully supplied by underground mining. An increased throughput will continue until the TIA embankment crest elevation reaches its permitted limit of 1,180 metres above sea level (masl). The Project does not propose expansion of the TIA or the Rock Storage Area beyond what is permitted. • Closure and Post-Closure: The decommissioning of the Project surface and underground infrastructure. This will include information about new or changed aspects of closure relevant to the Project.	Project Stages for Assessment Construction Stage Operations Stage Closure and Post-Closure Stage	Section 1.5.4 Section 1.5.5 Section 1.5.6 Section 1.5.7

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
1.5.3	Project Components and Activities	Components of the Project are located underground and at-surface. Key Project components are presented in Figure 1-4. The Amendment Application must include a description of the existing and permitted components that will be utilized for the Project. The Amendment Application must provide a description of the Project, including both onsite and offsite components and associated activities, for each of the Project stages (construction, operation, closure and post-closure). The Amendment Application must describe changes to the existing Mine infrastructure as a result of the Project. The Amendment Application must describe important aspects of the water management system of current operations and changes to infrastructure as a result of the assessment The Amendment Application must identify any offsite facility development or modification required for the Project. Underground components and activities of the Project must be described within the Amendment Application, and include: • Excavations • Extraction and Undercut Levels • Material Handling System • Underground Ventilation System • Underground Water Management System • Electrical Sub-Stations • Roadways At-surface components and activities of the Project must be described within the Amendment Application, and include: • Process plant expansion • Waste water treatment plant expansion; • Pre-conditioning drill pad area; • Plant bypass road; • 17.5 kilometer (km) Quarry expansion; • Expanded power supply and distribution system; • Change in traffic volume and frequency along the transportation corridor and any expected change in concentrate handling at the facilities owned and operated by Stewart Bulk Terminals Ltd at the Port of Stewart; and • Changes to ancillary infrastructure, including upgraded camp and increase in camp occupancy, addition of a centralized new dry facility, the surface components of block cave ventilation system, and an expanded freshwater supply system.	Project Components and Activities Project Stages for Assessment Construction Stage Operations Stage Closure and Post-Closure	Section 1.5.3 Section 1.5.4 Section 1.5.5 Section 1.5.6 Section 1.5.7
1.5.3	Project Components and Activities	• The Amendment Application must provide a description of the applicable Project components and activities, including their anticipated durations, anticipated time of year, and sequencing occurring during the construction, operation, closure and post-closure stages as follows:	Project Components and Activities	1.5.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix

1.5.3.1	Construction Stage	• Pre-conditioning
		  ○ Construction of pre-conditioning drill pads; and
		  ○ Use of high pressure/high flow water through developed drill holes to weaken the targeted Block Cave rock mass
		• Development of underground infrastructure
		  ○ Construction and installation of the underground ventilation system
		  ○ Construction of underground Material Handling System (i.e., crushers, mobile equipment, and associated infrastructure); and
		  ○ Groundwater - dewatering of underground
		• Process plant expansion
		  ○ building upgrades and laydown areas
		• Ancillary infrastructure upgrades.
		  ○ New Plant Bypass Road
		  ○ New substation for Underground and emergency power generation/supply
		  ○ Waste water treatment plan expansion
		  ○ Process water treatment plant upgrade
		  ○ 17.5 km Quarry expansion
		  ○ Construction of new Mine Dry
		  ○ Transportation of workforce and construction materials to and from Red Chris
		• Accommodation of workforce on site
		  ○ Camp expansion from 1,200 to1,500 occupancy; and
		• Expansion of waste facilities (sewage and potable water treatment and installation of additional incinerator)
			Revisions to the Project Description
			
			Construction Stage
				Section 1.5.2
				
				Section 1.5.5

1.5.3.2	Operations Stage	• Ore Processing
		  ○ Ore processing at increased rate of up to 15 Mtpa (including grinding, flotation, dewatering of concentrate and ore storage prior to transport)
		  ○ Operation and maintenance of ancillary infrastructure and buildings (process plant, power supply, including waste disposal
		  ○ Tailings management (including transport and disposal at an increased rate)
		  ○ Water management using existing infrastructure
		• Underground Mining
		  ○ Underground Block Cave Mining (i.e., Undercutting; loading of ore from draw points; hauling and dumping of ore into crusher; underground ventilation system operation)
		  ○ Transportation of waste rock and ore from underground to surface - via conveyor
		  ○ Groundwater - dewatering of underground
		• Ancillary infrastructure
		  ○ Power supply
		  ○ Operation of waste facilities
		• Regional infrastructure transport of personnel / workforce materials and concentrate).
			Operations Stage	Section 1.5.6

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
1.5.3.3	Closure and Post-Closure Stages	• Cave and subsidence zone management • Decommissioning and reclamation of underground infrastructure, including reclamation of the existing underground declines to the underground workings and openings to underground mine • Decommissioning and reclamation of Project related surface infrastructure • Ongoing and upcoming reviews of the site-wide closure plan as required by current *Mines Act* Permit M 240 • Site wide water management measures. • Any overlapping activities between the Project activities and the existing Mine activities must be described. Automated processes, and those requiring personnel must be described. Activities will be quantified where data is available and meaningfully applicable.	Closure and Post-Closure	Section 1.5.7
1.6	Workforce Requirements	• The Amendment Application must summarize the existing and anticipated labour requirements, employee programs and policies, and additional workforce development opportunities and identify how those may change over the life of the Project, and may include the following:	Workforce Requirements	Section 1.6
1.6	Workforce Requirements	• Opportunities for employment outlining the anticipated number of additional full-time and part-time positions to be created for the construction, operations, closure and post-closure stages of the Project, and compared to the existing full-time and part-time positions;	Workforce Requirements	Section 1.6
1.6	Workforce Requirements	• The skill and education levels required for the positions, as well as working conditions;	Workforce Requirements	Section 1.6
1.6	Workforce Requirements	• Investment in training opportunities	Employment and Training Opportunities	Section 1.6.2
1.6	Workforce Requirements	• Expected workforce requirements based on the National Occupational Classification (NOC) system and timelines for employment opportunities;	Workforce Requirements	Section 1.6
1.6	Workforce Requirements	• Anticipated work rotation schedules and means to get employees to the Project site;	Work Rotation and Accommodation Arrangements	Section 1.6.1
1.6	Workforce Requirements	• Anticipated workforce housing arrangements for the construction, operations, closure and post-closure stages of the Project;	Work Rotation and Accommodation Arrangements	Section 1.6.1
1.6	Workforce Requirements	• Anticipated hiring and retention policies including hiring programs;	Employee and Workplace Policies	Section 1.6.3
1.6	Workforce Requirements	• Workplace policies and programs for Indigenous employment and employment of underrepresented groups;	Tahltan Employment Initiatives	Section 1.6.2.1
1.6	Workforce Requirements	• Employee assistance programs and benefits, including career planning, employee counselling, family support, transition planning, pension plan and group insurance benefit plans; and	Employee and Workplace Policies	Section 1.6.3
1.6	Workforce Requirements	• Workplace policies and programs including codes of conduct, workplace safety programs and cultural training and awareness programs. Where appropriate, information regarding potential effects on the workforce will be presented by gender, age, and other community relevant identity factors used to identify disproportionate residual effects for diverse subgroups.	Employee and Workplace Policies	Section 1.6.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
1.7	Alternatives Means to Carrying out the Project	• The Amendment Application must identify and consider technically and economically feasible alternative means to carrying out the Project that were considered in developing the Project, including the use of Best Available Technologies (BAT), and the potential effects, risk and uncertainties of those alternatives. Project components and activities potentially affected by the mining method change will be identified and considered. The Amendment Application must:	Assessment of Alternatives	Section 1.7
1.7	Alternatives Means to Carrying out the Project	• Describe all alternative means considered;	Alternatives to the Project	Section 1.7.1
1.7	Alternatives Means to Carrying out the Project	• Describe the methods and criteria used to determine the technical and economic feasibility of the alternative means, which include: o Environmental, economic, social, cultural, and health effects o Effects to Indigenous interests o Effects on GHG emissions; and influence of climate change; and o Technical risks and uncertainties o Cumulative Effects	Methods to Assess Alternatives to the Project	Section 1.7.1.2
1.7	Alternatives Means to Carrying out the Project	• Identify the preferred alternative and discuss how best available technologies have been considered in identifying the preferred alternative; and	Assessment of Alternatives to the Project	Section 1.7.1.3
1.7	Alternatives Means to Carrying out the Project	• Summarize the potential effects, risks, and uncertainties of the preferred alternative and how these are addressed (refer to other parts of the Amendment Application where applicable for more detail).	Risks and Uncertainties	Section 1.7.1.5
1.8	Future Potential Condition Context	• The Amendment Application must provide the context for future potential conditions of the Mine. Future potential conditions considered must include:	Future Potential Condition Context	Section 1.8
1.8	Future Potential Condition Context	• Continuation of open pit mining, excluding the proposed Project; and	Future Potential Condition Context	Section 1.8
1.8	Future Potential Condition Context	Additional Mine development following operations of the proposed Project.	Future Potential Condition Context	Section 1.8
1.8	Future Potential Condition Context	A future without the project and the Red Chris Mine.	A future without the Poject and the Red Chris Mine.	Section 1.8.2
1.8	Future Potential Condition Context	The Amendment Application must acknowledge the previously published (2021) pre-feasibility study report for Red Chris Block Cave and provide the Certificate Holder's perspective on the contemporary validity of the information contained within the that study. Specific reference must be made to the life of mine concepts presented in that study.	Additional Mine Development Following Operations of the Proposed Project	Section 1.8.3
2.0	**Regulatory Framework**			
2.0	Regulatory Framework	As stated in section 3(5) of the Reviewable Project Regulation (B.C. Government 2019b), "A project with respect to which there is a holder of an EAC who may make an application under Section 32 of the Environmental Assessment Act (2018) (the Act) does not constitute a reviewable project for the purposes of this regulation". Therefore, the proposed Project is subject to an amendment to the EAC under Section 32(1) of the Act. The Amendment Application must provide a high- level overview outlining the assessment process to be followed for a Complex Amendment. The EAO and the Tahltan Central Government (TCG) will develop Amendment Procedures and an Amendment Workplan. These documents will provide details of the process and will be referenced as applicable. Based on the proposed changes, the Project will not trigger an Impact Assessment pursuant to the federal Impact Assessment Act. The Project is also subject to the assessment requirements set out in Chapter 10 - Environmental Assessment and Protection of the Nisga'a Treaty.	Amendment Assessment Process	Section 2.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
2.1	Regulatory History	The Amendment Application must provide a brief overview of the EAC regulatory history for the Mine.	Regulatory History	Section 2.2
2.2	Relevant Policies, Initiatives and Assessments	The Amendment Application must identify any government (municipal, provincial, federal, or First Nation) policies, study initiatives, and regional and strategic assessments relevant to the Project and/or environmental assessment and their implications.	Relevant Policies, Initiatives and Assessments	Section 2.5
2.3	Land Use Plans	The Amendment Application must summarize any land use plans of a government (municipal, provincial, federal, or First Nation) that may be relevant to the Project area, including whether the Project is consistent with the identified plans.	Land Use Plans	Section 2.6
2.4	Additional First Nation Arrangements	The Amendment Application must identify and describe how the assessment has considered the following arrangements, other than of the Tahltan consent agreement (TCG and B.C. Government 2023): • Any applicable First Nation arrangements between federal or provincial governments and First Nations that are pertinent to the Project and/or environmental assessment (e.g., any treaty, self-government, land claims); and • Any agreements between the Certificate Holder and First Nations applicable to the assessment of the Project.	Indigenous Nation Arrangements	Section 2.7
2.5	Permits and Authorizations	The Amendment Application must provide an update to the information provided in the Project description on permitting and authorizations, which must: • Describe existing licenses, permits, approvals or tenures held by NRCML and the date received; and • Describe anticipated authorizations and permits, their expected submission dates, and an indication of whether they would be submitted during the amendment review cycle.	Permits and Authorizations	Section 2.4
3.0	**EAC Amendment Process and Amendment Application Information Requirements**			
3.0	EAC Amendment Process and Amendment Application Information Requirements	The EAO and the TCG will develop Amendment Procedures and an Amendment Workplan. These documents will provide details of the process and will be referenced as applicable	Environmental Assessment Certificate Amendment Process and Amendment Application Information Requirements	Section 3.0
3.1	Declaration Act Consent Decision-Making Agreement	On November 1, 2023, the Province of B.C. and the TCG signed the "Declaration Act Consent Decision-Making Agreement for Red Chris Porphyry Copper-Gold Mine Project", ("Consent Agreement"). The Consent Agreement states that any amendments to the EAC must receive the consent of the Tahltan, who hold the rights to the lands and surrounding territory of the Mine. This consent may be contingent upon the inclusion of specific terms and conditions in the Amendment Order (the Tahltan Consent Decision). Without Tahltan consent, the EAC Amendment will not be granted by the EAO. The TCG Board of Directors will issue a TCG Notice of Decision to the Province indicating whether consent has been granted. The Consent Agreement and Amendment Procedures explain the process followed by the EAO and the TCG, as co-regulators, to prepare the TCG Notice of Decision and the final EAO decision. The AAIR specifies what must be included in the Amendment Application to meet the requirements of both the EAO environmental assessment and the TCG Risk Assessment process, ensuring both regulators have sufficient information to inform their respective decision makers.	Declaration Act Consent Decision-Making Agreement	Section 3.1
3.2	Tahltan Impact Assessment	To inform the Tahltan Consent Decision, the TCG is both a participating Indigenous nation as defined under the Act and is carrying out a Tahltan Risk Assessment as a regulator, as per the Consent Agreement and as guided by the Tahltan Impact Assessment Policy. The Tahltan Risk Assessment will consider the Project through the lens of Tahltan Knowledge and Stewardship Principles against the Tahltan Sustainability Requirements (Schedule D of the Consent Agreement) and Tahltan Risk Assessment Factors, (Schedule C of the Consent Agreement). See Section 4.0 of this AAIR for further details for requirements of the Tahltan Risk Assessment.	Tahltan Impact Assessment	Section 3.2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
3.3	General Guidance for Tahltan Environmental Assessment Requirements and Amendment Application Information Requirement	To maximize efficiencies and coordination between the EAO and Tahltan assessments, one Amendment Application will be developed by NRCML and submitted to fulfill the requirements of both the EAO and the TCG to undertake their respective assessments and decision-making processes. This AAIR details the expectations of both regulators for development of the Amendment Application. Tahltan and the EAO have common requirements for the Amendment Application, as well as specific requirements unique to each regulator. The specific requirements for the Tahltan Risk Assessment are contained in Section 4.0. To avoid repetition, common requirements will be hyperlinked between Section 4.0 and other sections of the Amendment Application, where required	General Guidance for Tahltan Environmental Assessment Requirements and Amendment Application Information Requirements	Section 3.3
4.0	**Tahltan Amendment Application Information Requirements**			
4.1	Tahltan Risk Assessment	Tahltan stewardship practices are guiding principles in our implementation of the Tahltan Risk Assessment for the Amendment Application. These include the principles as identified in section **Error! Reference source not found.**, the Tahltan Risk Assessment Factors, Sustainability Requirements, and the Tahltan Core Priorities as described in section **Error! Reference source not found.**. Contained within the Tahltan Risk Assessment is Tahltan consideration of whether the information provided, and assessment done on the Amendment Application, meet Tahltan confidences of baseline, effects, mitigations, and contingencies across the Tahltan Core Priorities, Risk Assessment Factors, and Sustainability Requirements.	n/a	This is being prepared independently on behalf on the Tahltan and is not included in the Amendment Application.
4.2.1	Tahltan NRCML Information Requirements Project requirements	NRCML's Amendment Application must provide sufficient contextual information about the Project to inform the Tahltan Consent Decision through the requirements of the Tahltan Risk Assessment and application of the Sustainability Requirements. NRCML must provide in the Amendment Application:	See below	See below
4.2.1-1	Tahltan NRCML Information Requirements Project requirements	A description of how the Project could influence the potential for ore to be accessed in the Consent Area Cumulative Effects AOI (See Section 4.3) beyond the currently proposed Life of Mine. A description of design considerations incorporated into the Project as proposed in the Amendment Application to facilitate future development and ensure safe and efficient future development opportunities, if circumstances allow development beyond the currently proposed Project.	Potential Influence from the Project on the Potential for Ore to be Accessed Beyond Currently Proposed Life of Mine	Section 4.2.1.1
4.2.1-2	Tahltan NRCML Information Requirements Project requirements	Description(s) of alternative closure techniques that could be applicable to the Red Chris Mine and will be further studied by NRCML that may reduce long-term risk and/or liabilities relative to the existing site-wide closure plan. Descriptions must include: • NRCML's planned approach, including timelines, for further study of alternative closure techniques identified in (2); • The alternative closure techniques' technological capabilities to address existing, lasting, or new effects from the closure of the Red Chris Mine on Tahltan for current and future generations, (up to 7 or more generations into the future), including the potential for the alternative closure techniques to meet Tahltan Sustainability Requirements; and, • Contingency measures and adaptive management approaches that could be applied should the alternative closure methods through additional study and investigation not align to enable closure and post closure of Red Chris Mine to meet the applicable Tahltan Sustainability Requirements under the Consent Agreement.	Alternative Closure Techniques	Section 4.2.1.2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
4.2.2	Existing Tahltan Value Condition Determination Requirements	Existing conditions for all Tahltan Values must be assessed by NRCML in all AOIs (See Section 4.3) across the Tahltan Continuum. Back casting of ancient (7-15 generations) and historic (up to 7 generations) conditions based on knowledge availability is required to identify trends, stressors and conditions that have been introduced to the Tahltan Value to determine the present-day condition of the Tahltan Value.	Ancient and Historical Conditions Overview	Section 4.2.3.1.2 Section 4.2.3.2.2 Section 4.2.3.3.2 Section 4.2.3.4.2 Section 4.2.3.5.2 Section 4.2.3.6.2 Section 4.2.3.7.2
4.2.3	Tahltan Value-Specific Information Requirements	The Amendment Application must, for each Tahltan Value in Section 4.3, identified for each AOI:	See below	See below
4.2.3-1	Tahltan Value-Specific Information Requirements	Describe the existing condition of the Tahltan Value across the Tahltan Continuum (ancient, historic, present, future) *without the proposed Project*. • In describing the existing condition, NRCML must consider the currently permitted and approved Mine Plan, Closure Plan and existing operational performance of the site forming the basis of the future predictions; and, • Describe identified trends and how past and present activities related to NRCML have affected or are affecting the Tahltan Value across the Tahltan Continuum, incorporating cumulative stressors, including climate change, anthropogenic influences, and other stressors on the Tahltan Value.	Areas of Interest Assessment	Section 4.2.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
4.2.3-2	Tahltan Value-Specific Information Requirements	Describe the predicted positive and negative effects of the proposed Project and the resulting condition of the Tahltan Values *with the proposed Project*. • Include effects over the lifecycle of the Project, including pre-construction, construction, operations (including changes over the operations period), closure, and post-closure; • Include any effects that are the result of interactions between Tahltan Values within or across AOIs; and, • Identify trends in the Tahltan Value condition across the Tahltan Continuum, incorporating cumulative stressors, including climate change, anthropogenic influences, and other stressors on the Tahltan Value.	Regional Cumulative Effects Area of Interest: Conditions with the Project Consent Area of Interest Communities Area of Interest Highway Areas of Interest Klappan River Area of Interest Saddle and Klappan Range Area of Interest Red Chris Mine Area of Interest	Section 4.2.3.1.3.3 Section 4.2.3.1.4.3 Section 4.2.3.1.5.3 Section 4.2.3.1.6.3 Section 4.2.3.1.7.3 Section 4.2.3.1.8.3 Section 4.2.3.1.9.3 Section 4.2.3.1.10.3 Section 4.2.3.1.11.3 Section 4.2.3.1.12.3 Section 4.2.3.1.13.3 Section 4.2.3.1.14.3 Section 4.2.3.1.15.3 Section 4.2.3.2 Section 4.2.3.3 Section 4.2.3.4 Section 4.2.3.5 Section 4.2.3.6 Section 4.2.3.6
4.2.3-3	Tahltan Value-Specific Information Requirements	For Tahltan Values listed below associated with each AOI in Section 4.3, the Amendment Application must:	See below	See below
4.2.3-3a	Tahltan Value-Specific Information Requirements	Groundwater • Describe the groundwater conditions in the AOI; • Provide groundwater information used to support development or inform water balance and water quality models; and, • Provide groundwater water balance and water quality models information and effects prepared for the Amendment Application in relation to the Tahltan AOI and supplemented with publicly available and provincial, federal and municipal government source information on groundwater that is available when the AAIR is issued.	Groundwater	Section 4.2.3.1.3 Section 4.2.3.2.3 Section 4.2.3.5.3 Section 4.2.3.6.3 Section 4.2.3.7.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
4.2.3-3b	Tahltan Value-Specific Information Requirements	Surface Water • Describe the surface water conditions in the AOI; • Provide surface water information used to support development or inform water balance and water quality models; and, • Provide surface water balance and water quality models information and effects prepared for the Amendment Application in relation to the Tahltan AOI and supplemented with publicly available and provincial, federal and municipal government source information on surface water that is available when the AAIR is issued.	Surface Water	Section 4.2.3.1.4 Section 4.2.3.2.4 Section 4.2.3.5.4 Section 4.2.3.6.4 Section 4.2.3.7.4
4.2.3-3c	Tahltan Value-Specific Information Requirements	Terrain and Soils • Describe the terrain and soil conditions in the AOI; and • Provide relative technical terrain and soil information generated and used to support development or inform the effects for the AOI.	Terrain and Soils	Section 4.2.3.1.6 Section 4.2.3.2.6 Section 4.2.3.7.6
4.2.3-3d	Tahltan Value-Specific Information Requirements	Fish, Fish Habitat and Aquatic Resources • Describe the fish, fish habitat and aquatic resource conditions in the AOI; • Provide fish and fish habitat information used to support development or inform the effects for the AOI; • Provide maps showing key watercourses and waterbodies in the AOI; • Describe and provide maps of fish habitats, including critical habitat or sensitive habitat areas, habitat information, and life stages for the AOI. Maps will be developed based on Project information and information from publicly available and provincial, federal and municipal government source information that is available when the AAIR is issued; and, • Provide aquatic resources information used to support development or inform the effects for the Tahltan Value and AOI.	Fish, Fish Habitat and Aquatic Resources	Section 4.2.3.1.5 Section 4.2.3.2.5 Section 4.2.3.4.3 Section 4.2.3.5.5 Section 4.2.3.6.5 Section 4.2.3.7.5
4.2.3-3e	Tahltan Value-Specific Information Requirements	Vegetation and Ecosystems • Describe the vegetation and ecosystem conditions in the AOI; • Describe and provide maps showing key vegetation and ecosystems in the AOI; • Describe and provide maps of relevant critical ecosystems/vegetation communities or sensitive ecosystems/vegetation communities for the Tahltan Value in the AOI. Maps will be developed based on Project information and information from publicly available and provincial, federal and municipal government source information that is available when the AAIR is issued; and, • Provide vegetation and ecosystem information used to support development or inform the effects for the Tahltan Value in the AOI.	Vegetation and Ecosystems	Section 4.2.3.1.7 Section 4.2.3.2.7 Section 4.2.3.5.6 Section 4.2.3.6.6 Section 4.2.3.7.7
4.2.3-3f	Tahltan Value-Specific Information Requirements	Wildlife and Wildlife Habitat • Describe the wildlife and wildlife habitat conditions in the AOI; • Describe and provide maps of relevant wildlife and wildlife habitat, including critical wildlife and wildlife habitat or sensitive wildlife and wildlife habitat, wildlife and wildlife habitat information and life stages for the Tahltan Value in the AOI. Maps will be developed based on Project information and information from publicly available and provincial, federal and municipal government source information that is available when the AAIR is issued; and, • Provide wildlife and wildlife habitat information used to support development or inform the effects for the Tahltan Value in the AOI.	Wildlife and Wildlife Habitat	Section 4.2.3.1.8 Section 4.2.3.2.8 Section 4.2.3.4.4 Section 4.2.3.5.7 Section 4.2.3.6.7 Section 4.2.3.7.8

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
4.2.3-3g	Tahltan Value-Specific Information Requirements	Human Health • Describe the human health conditions in the AOI; • Describe the status of food security in the AOI; • Describe the influence and potential impacts and effects of the 2-week rotational work schedule and required camp residency for Tahltan employees in the AOI; and, • Provide human health information, including Tahltan foods, land, and cultural requirements used to inform the effects for the Tahltan Value in the AOI.	Human Health	Section 4.2.3.1.9 Section 4.2.3.2.9 Section 4.2.3.3.3 Section 4.2.3.4.5 Section 4.2.3.6.8 Section 4.2.3.7.9
4.2.3-3h	Tahltan Value-Specific Information Requirements	Cultural Heritage Resources • Describe the Tahltan cultural and archaeological conditions in the AOI; and, • Describe the archaeological and historic site conditions in the AOI.	Heritage Resources	Section 4.2.3.1.12 Section 4.2.3.2.10 Section 4.2.3.4.6 Section 4.2.3.5.8 Section 4.2.3.6.9 Section 4.2.3.7.10
4.2.3-3i	Tahltan Value-Specific Information Requirements	Use of the Land and Resources for the exercise of Tahltan rights • Describe the conditions that support Tahltan's use of the land and resources for the exercise of rights within the AOI; • Describe how historic, existing, and approved activities have affected the conditions that support Tahltan's use of the land and resources for the exercise of rights within the AOI; • Describe the projected future conditions of the land and resources for the exercise of rights within the AOI; • Based on available information, describe the importance of the AOI in relation to Tahltan's current and future use of the land and resources for the exercise of rights; and, • For each of the Tahltan Values in the AOI, identify the pathways for potential impacts (positive and negative) on the current and future use of the land and resources for the exercise of rights within the AOI.	Use of the Land and Resources for the exercise of Tahltan rights	Section 4.2.3.1.13 Section 4.2.3.2.11 Section 4.2.3.3.6 Section 4.2.3.4.7 Section 4.2.3.5.9 Section 4.2.3.6.10 Section 4.2.3.7.11
4.2.3-3j	Tahltan Value-Specific Information Requirements	Social and Cultural Relationship to the Land and Each Other • Describe the current social and cultural environment, demographic characteristics and major socio-cultural concerns in the AOI; • Describe the status of the social and cultural values that support Tahltan's exercise of rights within the AOI; • Describe the projected future conditions of the social and cultural values that support Tahltan's exercise of rights within the AOI; and, • Provide relevant technical information generated and used to support development or inform the effects for the Tahltan Value in the AOI.	Social and Cultural Relationship to the Land and Each Other	Section 4.2.3.1.14 Section 4.2.3.2.12 Section 4.2.3.3.7 Section 4.2.3.4.8 Section 4.2.3.5.10 Section 4.2.3.6.11 Section 4.2.3.7.12

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
4.2.3-3k	Tahltan Value-Specific Information Requirements	Peaceful Enjoyment of Land • Describe the regional and local noise and vibration, air, and visual (including light) conditions for Tahltan current and future land and resource use in the AOI; • Describe how noise and vibration, air and visual (including light) disturbance could affect the exercise of rights by Tahltan in the AOI; • Describe and identify any exclusion areas that could result in changes to accessing harvesting and cultural sites; • Based on available information, describe the current status of peaceful enjoyment of the land in the AOI; and, • Describe the social, cultural, and environmental trends, stressors, and effects on the physical characteristics and experiential qualities of the land and water in the AOI, applying relevant legal and policy context related to Peaceful Enjoyment of Land.	Peaceful Enjoyment of the Land	Section 4.2.3.1.15 Section 4.2.3.2.13 Section 4.2.3.3.8 Section 4.2.3.4.9 Section 4.2.3.5.11 Section 4.2.3.6.12 Section 4.2.3.7.13
4.2.3-3l	Tahltan Value-Specific Information Requirements	Infrastructure and Services • Describe the current status of existing conditions for infrastructure and services (i.e., social, transportation, health, housing, community, family and safety) for Tahltan in the AOI; and, • Describe and provide infrastructure and services information generated and used to support development or inform the effects for the AOI.	Infrastructure and Services	Section 4.2.3.1.10 Section 4.2.3.2.14 Section 4.2.3.3.4 Section 4.2.3.4.10
4.2.3-3m	Tahltan Value-Specific Information Requirements	Employment and Economy • Describe the current status of existing conditions for employment and economy for Tahltan in the AOI; and, • Describe and provide relative technical employment and economy information generated and used to support development or inform the effects for the AOI.	Employment and Economy	Section 4.2.3.1.11 Section 4.2.3.2.15 Section 4.2.3.3.5
4.2.3-4	Tahltan Value-Specific Information Requirements	Additionally, for each predicted effect (positive, neutral and negative): • Identify the risk and confidence with the predicted effect and trend; • Describe committed mitigations, contingencies, and uncertainties; • Describe and ensure that any mitigation, contingencies, uncertainties, and follow up strategies: • Be designed to achieve restitution for any negative effect from the Project through replacement, restoration, compensation, or other means; • Be considered in relation to effects to a specific Tahltan Value rather than broader components; • Include an assessment of the effectiveness of the measures for addressing cumulative effects; • Include an assessment of the risk associated with both the ability and the inability to manage or mitigate the negative effect(s) and; • Describe how the effect may be monitored and adaptively managed; include a description of possible consequences if the mitigation measures do not achieve expected effectiveness.	Conditions with the Project	Section 4.2.3.1.3.3 Section 4.2.3.1.4.3 Section 4.2.3.1.5.3 Section 4.2.3.1.6.3 Section 4.2.3.1.7.3 Section 4.2.3.1.8.3 Section 4.2.3.1.9.3 Section 4.2.3.1.10.3 Section 4.2.3.1.11.3 Section 4.2.3.1.12.3 Section 4.2.3.1.13.3 Section 4.2.3.1.14.3 Section 4.2.3.1.15.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
4.2.3.1	Additional Information for Tahltan to Consider Tahltan Risk Assessment Factors and Tahltan Sustainability Requirements	NCRML may provide any additional information identified by NCRML that could support Tahltan's consideration of the Tahltan Risk Assessment Factors and Tahltan Sustainability Requirements. To supplement information requested in Section 4.2, Tahltan encourages NRCML to provide supporting information in relation to the following (and/or provide hyperlinks to sections of the Amendment Application where information related to the following topics can be found):	Additional Information for the Tahltan Nation to Consider Tahltan Risk Assessment Factors and Tahltan Sustainability Requirements	Section 4.2.1.3
4.2.3.1-1	Additional Information for Tahltan to Consider Tahltan Risk Assessment Factors and Tahltan Sustainability Requirements	How the Project can align with Tahltan management initiatives, including the draft Tahltan Stewardship Plan, when provided (See Tahltan Risk Assessment Factor #1 in Schedule C of the Consent Agreement);	Alignment with Tahltan Nation Management Initiatives	Section 4.2.1.3.4
4.2.3.1-2	Additional Information for Tahltan to Consider Tahltan Risk Assessment Factors and Tahltan Sustainability Requirements	Economic opportunities the Project will provide for Tahltan and Tahltan businesses (See Tahltan Risk Assessment Factors #5 and #14 and Tahltan Sustainability Requirement #13 in Schedules C and D of the Consent Agreement);	Economic Opportunities the Project will Provide for the Tahltan Nation and Tahltan Nation Businesses	Section 4.2.1.3.5
4.2.3.1-3	Additional Information for Tahltan to Consider Tahltan Risk Assessment Factors and Tahltan Sustainability Requirements	Whether NCRML has the financial resources to implement mitigations, including any proposed Tahltan mitigations and conditions, to carry the proposed Project to final closure, and contribute to support, or assist in creating the legacies required by Tahltan (See Tahltan Risk Assessment Factor #15 and Tahltan Sustainability Requirement #13 in Schedules C and D of the Consent Agreement);	Newcrest Red Chris Mining Limited - Financial Resource	Section 4.2.1.3.6
4.2.3.1-4	Additional Information for Tahltan to Consider Tahltan Risk Assessment Factors and Tahltan Sustainability Requirements	How the Project will affect Tahltan's relationship with NCRML (See Tahltan Risk Assessment Factor #17 in Schedule C of the Consent Agreement); and,	Newcrest Red Chris Mining Limited Relationship with the Tahltan Nation	Section 4.2.1.3.7
4.2.3.1-5	Additional Information for Tahltan to Consider Tahltan Risk Assessment Factors and Tahltan Sustainability Requirements	The compliance, regulatory, and operational history of the Project (See Tahltan Risk Assessment Factor #18 in Schedule C of the Consent Agreement).	Compliance, Regulatory, and Operational History of the Project	Section 4.2.1.3.8
4.2.3.1-6	Additional Information for Tahltan to Consider Tahltan Risk Assessment Factors and Tahltan Sustainability Requirements	NCRML's commitments to meet the Tahltan Sustainability Requirements and Tahltan mitigations and conditions (See Tahltan Risk Assessment Factor #22 and Tahltan Sustainability Requirement #10 in Schedules C and D of the Consent Agreement).	Commitments to Meet the Tahltan Nation Sustainability Requirements and Mitigations and Conditions	Section 4.2.1.3.9

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
4.2.3.1-7	Additional Information for Tahltan to Consider Tahltan Risk Assessment Factors and Tahltan Sustainability Requirements	Whether the Project will require mitigations, treatment, or monitoring beyond closure (i.e. will not require treatment of the land and water in perpetuity to maintain them at near normal levels). (See Tahltan Sustainability Requirement #8 in Schedule D of the Consent Agreement).	Post-Closure Mitigations, Treatment, and Monitoring	Section 4.2.1.3.10
4.3.1.1	Regional Cumulative Effects AOI	Tahltan Values included within AOI: • Groundwater; • Surface Water; • Terrain and Soils; • Fish, Fish Habitat, and Aquatic Resources; • Vegetation and Ecosystem Services; • Wildlife and Wildlife Habitat; • Human Health; • Heritage Resources; • Use of the Land and Resources for the exercise of Tahltan rights; • Social and Cultural Relationship to the Land and Each Other; • Peaceful Enjoyment of Land; • Infrastructure and Services; and, Employment and Economy.	Regional Cumulative Effects Area of Interest	Section 4.2.3.1
4.3.1.1	Regional Cumulative Effects AOI	When establishing current condition and describing applicable Tahltan Values' existing conditions and trends for the Regional Cumulative Effects AOI, NRCML must include at a minimum a description of: • Distribution and density of roads (including non-status roads); • Permanent loss of forest cover (mine sites, housing); • Orphan mine sites; • Historical and current mineral exploration and mining projects (including placer); • Other industrial activities, and reclaimed sites; • Percentage of forest cover removal and seral classes; • Current tenures related to human footprint including: • Timber supply volumes and rate of cut, forestry tenures, cutting permits, special use permits, road permits; • Notice of Work Permits, mineral leases, and tenures; • *Land Act* tenures, licences, grants, leases, and fee simple lands; • Commercial tenures, concessions, licences, and permits; • *Water Act* tenures, licences, grants, leases; • *Water Sustainability Act* tenures, licences, grants, leases and plans; and, • Range or agriculture tenures or concessions.	Area of Interest Overview	Section 4.2.3.1.1

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
4.3.1.2	Consent Areas Cumulative Efects AOI	Tahltan Values included within AOI: • Groundwater; • Surface Water; • Terrain and Soils; • Fish, Fish Habitat, and Aquatic Resources; • Vegetation and Ecosystem Services; • Wildlife and Wildlife Habitat; • Human Health; • Heritage Resources; • Use of the Land and Resources for the exercise of Tahltan rights; • Social and Cultural Relationship to the Land and Each Other; • Peaceful Enjoyment of Land; • Infrastructure and Services; and, Employment and Economy	Consent Areas of Interest	Section 4.2.3.2
4.3.2.1	Communities AOI	Tahltan Values included within AOI: • Human Health; • Infrastructure and Services; • Employment and Economy; • Use of the Land and Resources for the exercise of Tahltan rights; • Social and Cultural Relationship to the Land and Each Other; and, Peaceful Enjoyment of Land.	Communities Area of Interest	Section 4.2.3.3
4.3.2.2	Highway AOI	Tahltan Values included within AOI: • Human Health; • Wildlife and Wildlife Habitat; • Fish, Fish Habitat, and Aquatic Resources; • Heritage Resources; • Use of the Land and Resources for the exercise of Tahltan rights; • Social and Cultural Relationship to the Land and Each Other; • Peaceful Enjoyment of Land; and, Infrastructure and Services	Highways Area of Interest	Section 4.2.3.4

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
4.3.3.1	Klappan River AOI	Tahltan Values included within AOI: • Groundwater; • Surface Water; • Fish, Fish Habitat, and Aquatic Resources; • Vegetation and Ecosystem Services; • Wildlife and Wildlife Habitat; • Heritage Resources; • Use of the Land and Resources for the exercise of Tahltan rights; • Social and Cultural Relationship to the Land and Each Other; and, • Peaceful Enjoyment of Land.	Klappan River Area of Interest	Section 4.2.3.5
4.3.3.2	Saddle and Klappan Range AOI	Tahltan Values included within AOI: • Groundwater; • Surface Water; • Fish, Fish Habitat, and Aquatic Resources; • Vegetation and Ecosystem Services; • Wildlife and Wildlife Habitat; • Human Health; • Heritage Resources; • Use of the Land and Resources for the exercise of Tahltan rights; • Social and Cultural Relationship to the Land and Each Other; and, • Peaceful Enjoyment of Land.	Saddle and Klappan Range Area of Interest	Section 4.2.3.6
4.3.4.1	Red Chris Mine AOI	Tahltan Values included within AOI: • Groundwater; • Surface Water; • Terrain and Soils; • Fish, Fish Habitat, and Aquatic Resources; • Vegetation and Ecosystem Services; • Wildlife and Wildlife Habitat; • Human Health; • Heritage Resources; • Use of the Land and Resources for the exercise of Tahltan rights; • Social and Cultural Relationship to the Land and Each Other; and, Peaceful Enjoyment of Land.	Red Chris Mine Area of Interest	Section 4.2.3.7
4.4	Tahltan Engagement	Describe the ongoing and proposed collaborative Tahltan engagement activities regarding the Project and during the development of the application.	Engagement Overview	Section 4.3.1

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
4.4	Tahltan Engagement	The Amendment Application must describe the Certificate Holder's ongoing and proposed collaborative Tahltan engagement activities regarding the Project and during the development of the Amendment Application. The Certificate Holder's engagement strategy will be informed in part by the Amendment Procedures and Amendment Workplan issued by the EAO and the TCG. The Amendment Application must describe whether engagement is consistent with the requirements in the Amendment Procedures and the Amendment Workplan, and if not, provide a rationale.	Engagement Overview	Section 4.3.1
4.4	Tahltan Engagement	The Amendment Application must describe the efforts made to distribute Project information and the information and materials that were distributed during the consultation process.	Engagement Overview	Section 4.3.1
4.4	Tahltan Engagement	The Amendment Application must provide a summary of key issues related to the Project, which were raised through engagement with the Tahltan, and how these were addressed or considered as part of the overall effects assessment. The Amendment Application must identify Tahltan concerns that were not addressed, if any, and provide reasons why the concerns were not addressed.	Key Issues	Section 4.3.2
4.4	Tahltan Engagement	The Amendment Application must also provide details regarding how Tahltan will continue to be kept involved.	Ongoing Engagement	Section 4.3.3
5.0	**Nisga'a Nation**			
5.1	Nisga'a Nation Overview	The Certificate Holder must undertake an assessment of effects on the Nisga'a Nation pursuant to Chapter 10, paragraphs 8(e) and 8(f), of the Nisga'a Treaty. The assessment of effects on the Nisga'a Nation must be documented in a Nisga'a Chapter 10 Assessment. The Amendment Application must include a copy of a Nisga'a Chapter 10 Assessment and summarise the scope and outcomes of the assessment as well as engagement undertaken and planned with Nisga'a Nation.	Overview	Section 5.1
5.1.1	Nisga'a Nation Context	The Nisga'a Assessment context will be based on the publicly available information or any additional information that may be provided by the Nisga'a, and will include: • Background information about the Nisga'a Nation's cultural and political context, including a description of the rights and interests held by the Nisga'a Nation, under the Nisga'a Treaty and, any contextual information the Nisga'a Nation views as important to understanding the impacts of the Project on the Nisga'a Nation; and, • A map that identifies Nisga'a Lands, the Nass Area, and the Nass Wildlife Area under Nisga'a Treaty, as well as the Project location.	Nisga'a Nation Regulatory, Political, and Cultural Context	Section 5.1.2 Figure 5-1
5.2	Summary of Engagement	The Nisga'a Chapter 10 Assessment will: • Provide a summary of past and planned engagement activities that describes the efforts taken to seek the available views of Nisga'a Nation with respect to the Project including: ○ The engagement activities undertaken with the Nisga'a Nation including the timeframe, means, and results of engagement; • How engagement activities by the Certificate Holder support the Nisga'a Nation in understanding the Project and its effects on the Nisga'a Nation and its rights; and, • The Nisga'a Nation's views that may have been shared on the Certificate Holder's engagement approach and resolution of issues raised, including a summary of changes implemented or proposed to the Nisga'a Consultation Plan resulting from feedback from the experience from consultation to date; and	Summary of Engagement	Section 5.2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix

5.2	Summary of Engagement	• Provide an analysis of the input received, if available, from Nisga'a Nation with respect to the Project including:
		  ○ Description of how the Certificate Holder responded to questions, comments and issues raised by Nisga'a Nation, the Nisga'a Nation's perspective on the resolution of issues, how unresolved input has been addressed in the Amendment Application, and/or how unresolved input will be addressed through the environmental assessment or another regulatory process or government initiative;
		  ○ Where and how Nisga'a Nation perspectives were integrated into or contributed to decisions regarding the Project, if technically feasible and where available, including:
		  • Development and collection of existing conditions information;
		  • Plans for construction, operation, closure and post-closure or decommissioning;
		  • Identification of VCs; and
		Describe any publicly available arrangement or agreement between the Certificate Holder and the Nisga'a Nation for collaboration on the development of the Amendment Application or delivery of the proposed project.
			Summary of Engagement	Section 5.2

5.3	Information Sources	The Nisga'a Chapter 10 Assessment must clearly identify sources of all information used in preparing the assessment of effects on Nisga'a Nation, noting where information represents the views of Nisga'a Nation, the Certificate Holder or otherwise. Information sources that include effects assessment must be clearly labeled as such.	Information Sources	Section 5.3
5.4	Indigenous Knowledge	In respect of any outcomes from the effects assessment under Chapter 10 of the Nisga'a Treaty conveyed to the Certificate Holder, the Nisga'a Chapter 10 Assessment must: • Provide a statement indicating that the Nisga'a Nation supports the incorporation of such outcomes from the effects assessment into the Amendment Application and gives permission for its public disclosure; • Describe how such outcomes from the effects assessment may have informed project design, the assessment, and proposed mitigation measures to the extent economically and technically feasible; and, If applicable, provide a plan for future cooperation between the Certificate Holder and Nisga'a Nation to further incorporate the outcomes of the effects assessment into project implementation (for example, monitoring and management plans).	Nisga'a Knowledge Summary of Engagement View's of the Nisga'a Nation	Section 5.4 Section 5.2 Section 5.6.10

5.5.1	Environmental Effects Assessment
	Introduction
		The Nisga'a Chapter 10 Assessment must:
		• List the Nisga'a Nation's rights and interests under the Nisga'a Treaty as well as through engagement with the Nisga'a Nation or otherwise;
		  ○ Rights and interests considered must include, but may not be limited to:
		  • The right to manage and harvest Fish, including, specific allocations for Nass salmon (i.e., sockeye, pink, chinook, coho, and chum salmon originating in the Nass Area), Nass steelhead (i.e., winter run and summer run steelhead originating in the Nass Area), and Eulachon (also known as Oolichan) within the Nass Area.
		  • The right to harvest non-salmon species of fish and aquatic plants, including marine mammals, for domestic purposes in the Nass Area.
		  • The right to manage and harvest wildlife, including wildlife for domestic purposes in the Nass Wildlife Area, with specific allocations for Grizzly bear, Moose, Mountain goats, and other species as designated through annual management plans.
		  • The right to manage and harvest migratory birds for domestic purposes in the Nass Area.
		  • The right to access other lands.
		  • The effects of environmental impacts (including those resulting from accidents and malfunctions) on the cultural activities and practices of Nisga'a citizens.
			Nisga'a Nation Regulatory, Political and Cultural Context
			
			Potential Effects
			
			Potential Effects
				5.1.2
				
				Section 5.5.4
				
				Section 5.6.4

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
5.5.1	Environmental Effects Assessment Introduction	• Summarize the VCs used in the assessment of effects on the Nisga'a Nation and whether they were carried forward from the assessment of Section 25(2) assessment matters presented in Section 11.0 or developed specifically for the assessment of the Nisga'a Nation's Treaty rights and interests; • Describe any other assessment methods and analysis used to undertake the assessment of effects to the Nisga'a Nation Treaty rights and interests (if applicable); • Provide the Certificate Holder's analysis of whether the Project can reasonably be expected to have an adverse environmental effect on the residents of Nisga'a Lands, Nisga'a Lands, or Nisga'a interests, under the Nisga'a Treaty, and the effects of the project on the existing and future economic, social and cultural well-being of Nisga'a citizens as set out in Nisga'a Treaty, and the measures proposed by the Certificate Holder to prevent or mitigate those effects; and, • Describe linkages with other Nisga'a interests. Table 5 -1 outlines the relevant Chapter 10 Paragraph 8(e) Nisga'a Nation's Treaty rights and interests to be included in the Amendment Application.	Selection of Valued Components Potential Effects Effects Management	Section 5.5.2.2 Table 5.5-1 Section 5.5.4 Section 5.5.5
5.5.2	Assessment Boundaries	The Nisga'a Chapter 10 Assessment will define the assessment boundaries for the effects on Nisga'a Nation Treaty rights and interests, including spatial and temporal boundaries based on the applicable information available. Spatial and temporal boundaries will be consistent, as appropriate, with the related section of the AAIR as noted in Table 5-1. Where relevant, administrative and technical boundaries should also be identified.	Assessment Boundaries	Section 5.5.2.1
5.5.3	Existing Conditions	As applicable, the Nisga'a Chapter 10 Assessment must: • Describe historic and current use of the Project area by Nisga'a citizens over time and practices in the Project area regarding the Nisga'a Nation's Treaty rights and interests (include reference to specific sites and species of interests, where applicable), based on available information; • Describe the relative importance of the Project area and its surroundings, including any special characteristics or unique features, to the Nisga'a Nation's Treaty rights and interests as known or identified; and, • Describe how the Nisga'a Nation's Treaty rights and interests have been affected by cumulative effects to date based on publicly available information or first-hand information received from the Nisga'a.	Existing Conditions Nisga'a Nation Regulatory, Political, and Cultural Context Cumulative Effects Pathways Cumulative Effects	Section 5.5.3 Section 5.1.2 Section 5.5.7.1 Section 5.6.9

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
5.5.4	Potential Effects	The Nisg̲a'a Chapter 10 Assessment must include an assessment of the effects to the Nisg̲a'a Nation's Treaty rights and interests. The Amendment Application must summarize effects assessments described in Section 11.0 and link them to the relevant Nisg̲a'a Nation Treaty rights and interests. For each of the Nisg̲a'a Nation's Treaty rights and interests identified, the Amendment Application must consider in the following: • Ecological Effects: The extent that a given component of the ecosystem could be altered by the Project so as to cause an adverse effect on that component of the ecosystem; • Treaty Right to Use: The extent that a given component of the ecosystem which is currently used or could be used in the future by Nisg̲a'a citizens (regardless of actual levels of past or current use) could be altered by the Project so as to cause an adverse effect on the use of that component of the ecosystem by Nisg̲a'a citizens (or Nisg̲a'a entity) based on information and interactions known at the time of the development of the Amendment Application; and, • Human Health: The extent that a given component of the ecosystem could be altered by the Project so as to cause an adverse effect to the health of Nisg̲a'a citizens and other residents of Nisg̲a'a Lands who use that component of the ecosystem: Only those Treaty rights and interests that are identified as having an interaction with the Project will be carried forward for assessment and characterization. In conjunction with the consideration of ecological effects, effects on Treaty right to use, and on human health, the Certificate Holder must carry out the following steps in support of the 8(e) assessment: • Identify the geographic extent of the Treaty right as set out in Nisg̲a'a Treaty and establish whether the geographic extent of the Treaty right differs from the spatial boundaries applicable to VCs or indicators discussed elsewhere in the Amendment Application. If a difference is identified, determine the relevance to assessing potential adverse environmental effects to the Nisg̲a'a Nation's Treaty right; • Provide a narrative that clearly describes the relevant assumptions and limitations in understanding the potential adverse environmental effects on residents of Nisg̲a'a Lands, Nisg̲a'a Lands, and Nisg̲a'a Nation Treaty interests, as set out in Nisg̲a'a Treaty, and identifies any empirical evidence or professional opinion that has been relied upon; • Identify additional information being used to inform the assessment of potential adverse environmental effects on the Nisg̲a'a Nation Treaty right; and, Determine whether there is the potential for an adverse environmental effect on the Nisg̲a'a Nation Treaty right based on the Project.	Potential Effects	Section 5.5.4
5.5.5	Effects Management	The Nisg̲a'a Chapter 10 Assessment must: • Provide project design and mitigations identified for the relevant VCs that may also be proposed to mitigate effects on Nisg̲a'a Nation Treaty rights and interests; • Provide additional technically feasible and relevant mitigations that are specific to the Nisg̲a'a Nation or Nisg̲a'a Nation's Treaty rights and interests, if applicable; and, • Provide proposed monitoring initiatives or review processes related to the residual effects that may require (if applicable) further follow-up on Nisg̲a'a Nation's Treaty rights and interests. Nisg̲a'a Nation perspectives on the effectiveness of the mitigation options must be presented as well as the relative level of uncertainty or risk associated with the mitigation option	Effects Management	Section 5.5.5
5.5.6	Assessing Negative Effects	The Nisg̲a'a Chapter 10 Assessment must provide a detailed description of the methods used to assess negative effects to Nisg̲a'a Nation's Treaty rights and interests that may be anticipated as a result of the Project and present the residual effects of this assessment, after taking mitigation into account.	Potential Effects	Section 5.5.4

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
5.5.7	Potential Residual Effects	The Nisga'a Chapter 10 Assessment must provide a characterization of negative residual effects of the Project to Nisga'a Nation's Treaty rights and interests.	Potential Residual Effects	Section 5.5.6
5.5.8	Cumulative Effects	The Nisga'a Chapter 10 Assessment must include an assessment of potential cumulative effects on Nisga'a Nation's Treaty interests as it relates to this Project if such are identified through the effects assessment process and identify additional mitigation measures that are technically and practically feasible. This Nisga'a Chapter 10 Assessment will include, at a minimum, those projects listed in Section 10.10 that are within the Nass Area which have transportation routes that overlap with those of the Project. The Amendment Application must describe the likelihood of any adverse residual cumulative effects on Nisga'a Nation and provide a summary of the results of the cumulative effects assessment.	Cumulative Effects	Section 5.5.7
5.5.9	View of the Nisga'a Nation	The Amendment Application must describe how the Certificate Holder engaged with the Nisga'a Nation, including collaboration with the Nisga'a Nation, or integrated the Nisga'a Nation's perspectives into, the assessment of effects on the Nisga'a Nation, at the time that the Amendment Application is submitted. The Amendment Application should clearly state views of the Nisga'a Nation that have been shared with the Certificate Holder on the potential effects identified, approach to effects management, residual effects and conclusions.	Views of the Nisga'a Nation	Section 5.5.8
5.6.1	Economic, Social and Cultural Effects Assessment Introduction	The Nisga'a Chapter 10 Assessment must: • List the Nisga'a Nation's rights and interests under paragraph 8(f) of Chapter 10 the Nisga'a Treaty as well as through engagement with the Nisga'a Nation or otherwise; ○ Economic rights and interests considered must include, but may not be limited to: • Nisga'a citizens' employment and income; • Nisga'a citizens' business activities; • Natural resource activities and related earnings or values; and, • Future Nisga'a citizens' economic opportunities and economic development. • Social rights and interests considered must include, but may not be limited to: • Migration and population effects in Nisga'a Nation communities; • Infrastructure and services in the Nisga'a Nation communities; • Occupational and non-occupational health and accident risk; • Crime; and, • Family and community well-being. ○ Cultural rights and interests considered must include, but may not be limited to: • Effects of environmental impacts (including those resulting from accidents and malfunctions) on the cultural activities and practices of Nisga'a citizens; • Effects of changing work patterns on Nisga'a cultural activities and practices; and, • Effects on Nisga'a language.	Nisga'a Nation Regulatory, Political, and Cultural Context Social Interests Economic, Social, Cultural Effects Assessment	Section 5.1.2 Section 5.6.4.2 Section 5.6

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
5.6.1	Introduction	• Summarize the VCs used in the assessment of effects on the Nisga'a Nation and whether they were carried forward from the assessment presented in Chapter 11.0 or developed specifically for the assessment of the Nisga'a Nation's Treaty rights and interests; • Describe any other assessment methods and analysis used to undertake the assessment of effects to the Nisga'a Nation Treaty rights and interests (if applicable); • Provide the Certificate Holder's analysis of the potential effects of the Project on the existing and future economic, social, and cultural well-being of Nisga'a citizens, in accordance with paragraph 8(f) of Chapter 10 of the Nisga'a Treaty; and, Describe linkages with other Indigenous Interests. Table 5-2 will be included and outline the relevant Paragraph 8(f) of Chapter 10 of the Nisga'a Treaty rights and interests to be included in the Application.	Assessment Methods Potential Effects	Section 5.6.2 Table 5.6-1 Section 5.6.4
5.6.2	Assessment Boundaries	The Nisga'a Chapter 10 Assessment will define the assessment boundaries for the effects on Nisga'a Nation's Treaty rights and interests, including spatial and temporal boundaries based on the applicable information available. Spatial and temporal boundaries will be consistent, as appropriate, with the related section of the AAIR as noted in Table 5-2. Where relevant, administrative and technical boundaries should also be identified.	Assessment Boundaries	Section 5.6.2.1
5.6.3	Existing Conditions	As applicable the Nisga'a Chapter 10 Assessment must: • Describe the historic and current use of the Project area by Nisga'a citizens over time and practices in the Project area regarding the Nisga'a Nation's Treaty rights and interests (include reference to specific sites and species of interest, where applicable), based on available information; • Describe the relative importance of the Project area and its surroundings, including any special characteristics or unique features, to the Nisga'a Nation's Treaty rights and interests as known or identified; and, • Describe how the Nisga'a Nation's Treaty rights and interests have been affected by cumulative effects to date based on publicly available information or first-hand information received from the Nisga'a.	Nisga'a Nation Regulatory, Political, and Cultural Context.	Section 5.1.2
5.6.4	Potential Effects	The Nisga'a Chapter 10 Assessment must include an assessment of the effects to the Nisga'a Nation's Treaty rights and interests. The Amendment Application must summarize effects assessments described in Chapter 11.0 and link them to the relevant Nisga'a Nation's Treaty rights and interests. For each of the Nisga'a Nation's Treaty rights and interests identified, the Nisga'a Chapter 10 Assessment must: • Summarize effects assessments described in Chapter 11.0 and link them to the relevant Nisga'a Nation Treaty rights and interests, as identified in Table 5-2; • Assess the potential for interaction between the Project's activities and components and the Nisga'a Nation Treaty rights and interests; ○ Where an interaction with Project components is not present the right or interest will not be brought forward. The proponent must present a rationale for any interest that is not brought forward. To assess the potential economic, social, and cultural effects carried forward for further consideration, the Certificate Holder must: • Meet with NLG staff and other interested parties to discuss the paragraph 8(f) assessment approach; • Review relevant Nisga'a Nation reports and previous 8(f) reports to support the current assessment process and conclusions.	Potential Effects	Section 5.6.4

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
5.6.5	Effects Management	The Nisga'a Chapter 10 Assessment must: • Provide project design and mitigations identified for the relevant VCs that may also be proposed to mitigate effects on the Nisga'a Nation's Treaty rights and interests; • Provide additional technically feasible and relevant mitigations that are specific to the Nisga'a Nation or Nisga'a Nation's Treaty rights and interests, if applicable; and, • Provide proposed monitoring initiatives or review processes related to the residual effects that may require (if applicable) further follow up on Nisga'a Nation's Treaty rights and interests. • The Nisga'a Nation's perspectives on the effectiveness of the mitigation options must be presented as well as the relative level of uncertainty or risk associated with the mitigation option.	Effects Management	Section 5.6.5
5.6.6	Assessing Negative Effects	The Nisga'a Chapter 10 Assessment must provide a detailed description of the methods used to assess negative effects to Nisga'a Nation's Treaty rights and interests that may be anticipated as a result of the Project and present the residual effects of the assessment, after taking mitigation into account.	Assessing Negative Effects	Section 5.6.6
5.6.7	Potential Residual Effects	The Nisga'a Chapter 10 Assessment must provide a characterization of the negative residual effects of the Project to Nisga'a Treaty rights and interests.	Potential Residual Effects	Section 5.6.7
5.6.8	Cumulative Effects	The Nisga'a Chapter 10 Assessment must include an assessment of potential cumulative effects on Nisga'a Treaty rights and interests as it relates to this Project if such are identified through the effects assessment process and identify additional mitigation measures that are technically and practically feasible. This Nisga'a Chapter 10 Assessment include, at a minimum, those projects listed in section 10.10 that are within the Nass Area which have transportation routes that overlap with those pf the Project. The Amendment Application must describe the likelihood of any adverse residual cumulative effects on the Nisga'a Nation and provide a summary of the results of the CEA.	Cumulative Effects	Section 5.6.8
5.6.9	Views of the Nisga'a Nation	The Amendment Application must describe how the Certificate Holder engaged with the Nisga'a Nation, including collaboration with the Nisga'a Nation, or integrated the Nisga'a Nation's perspectives into, the assessment of effects on the Nisga'a Nation, at the time that the Amendment Application is submitted. The Amendment Application should clearly state the views of the Nisga'a Nation that have been shared with the Certificate Holder on the potential effects identified, approach to effects management, residual effects and conclusions.	Views of the Nisga'a Nation	Section 5.6.10
5.7	Positive Effects	The Nisga'a Chapter 10 Assessment must describe any positive effects to Nisga'a Nation's Treaty rights and interests or to the Nisga'a Nation overall that are anticipated as a result of the Project and its associated effects management approaches. The Amendment Application must describe how the Certificate Holder engaged and/or collaborated with the Nisga'a Nation or integration the Nisga'a Nation perspectives into the assessment of positive effects of Nisga'a Nation. The Amendment Application must state any views of the Nisga'a Nation on the potential positive effects identified.	Positive Effects	Section 5.6.6
5.8	Summary	The Nisga'a Chapter 10 Assessment must include a summary of the assessment for Nisga'a Nation outlining: • The residual effects on Nisga'a treaty rights and interests for the EAO to consider when determining the overall seriousness of impact to the rights and interests; • Any major points of agreement or disagreement with the Nisga'a Nation; and, • Efforts taken to address any points of disagreement	Summary	Section 5.6.11

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
6.0	**Gitanyow Nation**			
6.1	Gitanyow Nation Overview	As outlined in the Amendment Procedures, Gitanyow Nation (Gitanyow) will work directly with the Certificate Holder to conduct an independent but parallel assessment of the Project, the Wilp Sustainability Assessment Process (WSAP). Gitanyow indicated that key materials and outcomes developed during the WSAP (including the initial project information drafted by the Certificate Holder, the Wilp Sustainability Assessment Report, and the Project Decision Statement) will be provided directly to the EAO.	Overview	Section 6.1
6.2	Scope of WSAP	The scope of the WSAP, as developed jointly with Gitanyow will be included in the Amendment Application, as will any findings available at the time of submission.	Scope of the WSAP	Section 6.2
6.3	Summary of Engagement and Collaboration	In addition to the studies and information required of NRCML by Gitanyow, the Amendment Application must include a summary of the Certificate Holder's work with Gitanyow on the Wilp Sustainability Assessment Process (WSAP), outlining:	Summary of Engagement and Collaboration	Section 6.3
6.3	Summary of Engagement and Collaboration	How the Certificate Holder has identified and considered Gitanyow's known Indigenous interests in Red Chris	Summary of Engagement and Collaboration	Section 6.3
6.3	Summary of Engagement and Collaboration	How the Certificate Holder has engaged with Gitanyow in supporting the implementation of the WSAP to the Red Chris environmental assessment process	Summary of Engagement and Collaboration	Section 6.3
6.3	Summary of Engagement and Collaboration	An assessment of the effects of the Project on Gitanyow's known Indigenous interests based on the information available	Summary of Engagement and Collaboration	Section 6.3
6.3	Summary of Engagement and Collaboration	A summary of potential non-confidential arrangement or agreement that may exist between the Certificate Holder and Gitanyow	Summary of Engagement and Collaboration	Section 6.3
7.0	**Tsetsaut/Skii Km Lax Ha**			
7.1	Tsetsaut/Skii Km Lax Ha Overview	The Amendment Application must include an assessment of the effects of the Project on Tsetsaut/Skii Km Lax Ha and its identified known interests that may be impacted by the Project based on the information available regarding their Rights. The Amendment Application must include an assessment informed by the engagement that may have occurred with Tsetsaut/Skii Km Lax Ha as required in the Amendment Procedures.	Assessing Effects on Tsetsaut/Skii km Lax Ha Interests	Section 7.5
7.2	Tsetsaut/Skii Km Lax Ha Context	The assessment must include an overview of the understanding of the known Tsetsaut/Skii Km Lax Ha interests that could be affected by the Project. Information in this section must be developed through engagement with the Nation. The Amendment Application must:	Tsetsaut/Skii km Lax Ha Overview Tsetsaut/Skii km Lax Ha Context	Section 7.1 Section 7.2
7.2	Tsetsaut/Skii Km Lax Ha Context	The Amendment Application must include background information on Tsetsaut/Skii Km Lax Ha that has been made available including ethnography, language, governance, economy, population, communities, Reserves, First Nation land use plans, health and social conditions and any other contextual information the First Nation views as important to understanding the impacts of the Project on their Nation.	Understanding of Indigenous Interests and Current Context	Section 7.2.1

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
7.2	Tsetsaut/Skii Km Lax Ha Context	• Provide an overview of Tsetsaut/Skii Km Lax Ha's governance context of the area affected by the Project including information regarding, where available: ○ How Tsetsaut/Skii Km Lax Ha laws, governance, philosophies or customs have historically applied and currently apply to this area, including how those may have evolved over time, how those processes should be used to review the potential impacts of the Project on Tsetsaut/Skii Km Lax Ha interests and what information the Nation may need or processes that are required to support its decision making in the area that may be affected by the Project; and ○ Any laws, customs, or requirements for the area that may be affected by the Project including any existing First Nation land use plans.	Tsetsaut/Skii km Lax Ha Historic and Ethnographic Background Governance Land Use Practices and Experiences	Section 7.2.1.1 Section 7.5.2.2 Section 7.5.2.3
7.2	Tsetsaut/Skii Km Lax Ha Context	• Provide a list of the Tsetsaut/Skii Km Lax interests that may be impacted by the Project;	Tsetsaut/Skii km Lax Ha Interests	Section 7.2.2
7.2	Tsetsaut/Skii Km Lax Ha Context	• Summarize how the identified the Tsetsaut/Skii Km Lax interests may have been affected by cumulative effects to date; and,	Summary of Existing Cumulative Effects on Tsetsaut/ Skii km Lax Ha Interests	Section 7.2.2.1
7.2	Tsetsaut/Skii Km Lax Ha Context	• Summarize past, present and anticipated future use of the Project area by Tsetsaut/Skii Km Lax people over time and practices in the Project area regarding the Tsetsaut/Skii Km Lax interests identified. This summary must include site-specific use values present in the LAA and RAA, which are areas identified and/or mapped by the Tsetsaut/Skii Km Lax as having environmental, cultural, spiritual, transportation, subsistence and habitation value.	Past, present, and future use of the Transportation Corridor by Tsetsaut/Skii km Lax Ha	Section 7.2.2.2
7.3	Summary of Engagement	The Amendment Application must: Provide a summary of past and planned engagement activities that describes the efforts taken to seek the available views of Tsetsaut/Skii Km Lax Ha with respect to the Project including: • The engagement activities undertaken with Tsetsaut/Skii Km Lax Ha including the timeframe, means, and results of engagement; • How engagement activities by the Certificate Holder support the Tsetsaut/Skii Km Lax Ha to understand the Project and its effects on the Nation and its rights; and • Tsetsaut/Skii Km Lax Ha's views on the Certificate Holder's engagement approach (if provided) and resolution of issues received and raised	Summary of Engagement	Section 7.3
7.3	Summary of Engagement	Provide an analysis of the input received from Tsetsaut/Skii Km Lax Ha with respect to the Project including: • Description of how the Certificate Holder responded to questions, comments and issues raised by Tsetsaut/Skii Km Lax Ha, Tsetsaut/Skii Km Lax Ha's perspective on the resolution of issues, how unresolved input has been addressed in the Amendment Application, and/or how unresolved input will be addressed through the EA or another regulatory process or government initiative; • Where and how Tsetsaut/Skii Km Lax Ha's perspectives, if shared, were integrated into or contributed to decisions regarding the Project, including: ○ Development and collection of baseline information; ○ Plans for construction, operation, closure and post closure or decommissioning; ○ Identification of VCs	Summary of Engagement	Section 7.3
7.3	Summary of Engagement	Describe potential arrangement or agreement that may exist between the Certificate Holder and Tsetsaut/Skii Km Lax Ha for collaboration on the development of the Amendment Application or delivery of the proposed project	Summary of Engagement	Section 7.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
7.4	Information Sources	The Amendment Application must clearly identify sources of all information used in preparing the assessment of effects on Tsetsaut/Skii Km Lax Ha, noting where information represents the views of Tsetsaut/Skii Km Lax Ha, the Certificate Holder or otherwise. Information sources that include Indigenous knowledge must be clearly labelled as such.	Information Sources	Section 7.4
7.4.1	Indigenous Knowledge	Regarding the collection and use of Tsetsaut/Skii Km Lax Ha knowledge, the Amendment Application must: • Provide an outline of the steps taken by the Certificate Holder to work with Tsetsaut/Skii Km Lax Ha to incorporate Indigenous knowledge if provided including a summary of potential arrangements with the Tsetsaut/Skii Km Lax Ha regarding the use and application of Indigenous knowledge provided; • Provide a statement indicating that Tsetsaut/Skii Km Lax Ha supports the characterization and application of Indigenous knowledge contained within the Amendment Application and gives permission for its public disclosure; • Describe how Tsetsaut/Skii Km Lax Ha knowledge may have informed project design, the assessment, and proposed mitigation measures, to the extent economically and technically feasible; and • If applicable, provide a plan for future cooperation between the Certificate Holder and Tsetsaut/Skii Km Lax Ha to further incorporate Indigenous knowledge into project implementation (for example, monitoring and management plans).	Views of the Tsetsaut/Skii km Lax Ha	Section 7.5.6
7.5.1	Assessing Effects on Indigenous Interests Introduction	The Amendment Application must: • Describe how each Indigenous interest for Tsetsaut/Skii Km Lax Ha was identified, through engagement or otherwise; • Summarize the VCs used in the assessment of effects on each Tsetsaut/Skii Km Lax Ha Indigenous interest and whether they were carried forward from the assessment of Section 25(2) assessment matters presented in section 12.0 or developed specifically for the assessment of each Tsetsaut/Skii Km Lax Ha Indigenous interest; • Describe any other assessment methods and analysis that may have been used to undertake the assessment of effects to each Indigenous interest; and, • Describe linkages with other Indigenous interests that may apply.	Tsetsaut/Skii km Lax Ha Interests Assessing Effects on Tsetsaut/Skii km Lax Ha Interests	Section 7.2.2 Section 7.5.3.1 Section 7.5
7.5.2	Assessment Boundaries	The Amendment Application must define the assessment boundaries for the effects on each Tsetsaut/Skii Km Lax Ha Indigenous interest, including spatial and temporal boundaries. Where relevant, administrative and technical boundaries should also be identified.	Assessment Boundaries	Section 7.5.1
7.5.3	Existing Conditions	As applicable, the Amendment Application must: • Describe historic and current use of the Project area by the Tsetsaut/Skii Km Lax Ha I people over time and practices in the Project area regarding each Indigenous interest as known or shared with the NRCML (include reference to specific sites and species of interests, where applicable); • Describe the known or identified relative importance of the Project area and its surroundings, including special characteristics or unique features, to the Tsetsaut/Skii Km Lax Ha interest; and • Describe how the Tsetsaut/Skii Km Lax Ha interest has been affected by cumulative effects to date based on publicly available information or first-hand information received by the Tsetsaut/Skii Km Lax Ha.	Tsetsaut/Skii km Lax Ha Context Existing Condition Summary of Existing Cumulative Effects on Tsetsaut/Skii km Lax Ha Interests	Section 7.2 Section 7.5.2 Section 7.2.2.1
7.5.4	Potential Effects	—	Potential Effects	Section 7.5.3
7.5.5	Indigenous Interests	The Amendment Application must include an assessment of the effects to each Tsetsaut/Skii Km Lax Ha interest. The Amendment Application must: • Describe potential pathways by which the Project components and activities may impact each Tsetsaut/Skii Km Lax Ha interest, if any; • Identify effects to be carried forward from pathways determined to be consequential or requiring mitigation related to Tsetsaut/Skii Km Lax Ha; and • Describe the VCs and indicators used to assess effects carried forward	Potential Effects	Section 7.5.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
7.5.6	Effects Management	The Amendment Application must: • Provide project design and mitigations identified for the relevant VCs that may also be proposed to mitigate effects on each Tsetsaut/Skii Km Lax Ha interest; • Provide additional technically feasible and relevant mitigations specific to Tsetsaut/Skii Km Lax Ha interests if applicable; and • Provide proposed monitoring initiatives or review processes related to the effect on each Tsetsaut/Skii Km Lax Ha interest. Tsetsaut/Skii Km Lax Ha perspectives that are received in a timely manner on the effectiveness of the mitigation options must be presented as well as the relative level of uncertainty or risk associated with the mitigation option.	Effects Management	Section 7.5.4
7.5.7	Assessing Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to Tsetsaut/Skii Km Lax Ha that may be anticipated as a result of the Project and the residual effects, after taking mitigation into account.	Summary of Potential Residual Effects	Section 7.5.5
7.5.8	Potential Residual Effects	The Amendment Application must provide a characterization of negative residual effects of the Project to each Tsetsaut/Skii Km Lax Ha interest.	Summary of Potential Residual Effects	Section 7.5.5
7.5.9	Cumulative Effects	The Amendment Application must include an assessment of potential cumulative effects on each Tsetsaut/Skii Km Lax Ha interest as it relates to this project if such are identified through the assessment process and identify any additional mitigation measures. The Amendment Application must describe the likelihood of adverse residual cumulative effects on each Tsetsaut/Skii Km Lax Ha interest and provide a summary of the results of the CEA.	Summary of Existing Cumulative Effects on Tsetsaut/Skii km Lax Ha Interests	Section 7.2.2.1
7.5.10	Views Of Tsetsaut/Skii Km Lax Ha	The Amendment Application must describe how the Certificate Holder engaged with Tsetsaut/Skii Km Lax Ha, including collaboration with Tsetsaut/Skii Km Lax Ha, or integrated Tsetsaut/Skii Km Lax Ha's perspectives into the assessment of effects on each Tsetsaut/Skii Km Lax Ha interest. The Amendment Application should clearly state any views of the Tsetsaut/Skii Km Lax Ha on the potential effects identified, approach to effects management, residual effects and conclusions.	Views of Tsetsaut/Skii km Lax Ha	Section 7.5.6
7.5.11	Positive Effects	The Amendment Application must describe positive effects to individual Indigenous interests or Tsetsaut/Skii Km Lax Ha overall that are anticipated as a result of the Project and its associated effects management approaches. The Amendment Application must describe how the Certificate Holder engaged with Tsetsaut/Skii Km Lax Ha, or integrated Tsetsaut/Skii Km Lax Ha perspectives into the assessment of positive effects on each Tsetsaut/Skii Km Lax Ha interest. The Amendment Application must clearly state any views of the Tsetsaut/Skii Km Lax Ha on the potential positive effects identified	Summary of Potential Residual Effects	Section 7.5.5
8.0	**Public and Local Engagement**			
8.1	Public Engagement	The Amendment Application must describe the efforts made to distribute the Project information to the public, and the information and materials that were distributed during the consultation process.	Summary of Public Engagement	Section 8.1
8.1	Public Engagement	The Amendment Application must document the methods used to consult the public, where the consultation was held, the views expressed, and the extent to which this information was incorporated in the design of the Amendment Application.	Summary of Public Engagement	Section 8.1
8.1	Public Engagement	If the information was not incorporated into the Application, a description of why must be provided.	Views Discussed at Newcrest Red Chris Mining Limited Public Engagements on the Project	Section 8.1.5
8.2	Local Government	The Amendment Application must describe the Certificate Holder's ongoing and proposed local government engagement activities regarding the Project and include engagement during the development of the application.	Summary of Local Government Engagement	Section 8.2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
8.2	Local Government	The Certificate Holder's engagement strategy will be informed in part by the Amendment Procedures and the Assessment Workplan issued by the EAO and the TCG. The Amendment Application must describe whether the engagement is consistent with the requirements in the Amendment Procedures and the Amendment Workplan, and if not, provide a rationale.	Summary of Local Government Engagement	Section 8.2
8.2	Local Government	The Amendment Application must describe the efforts made to distribute Project information and the information and materials that were distributed during the consultation process.	Summary of Local Government Engagement	Section 8.2
8.2	Local Government	The Application must indicate the methods used, where the consultation was held, the views expressed, and the extent to which this information was incorporated in the design of the Project as well as in the Application.	Summary of Local Government Engagement	Section 8.2
8.2	Local Government	The Amendment Application must provide a summary of key issues related to the Project that were raised through engagement with local government and the potential environmental, economic, social, cultural, and health effects, including disproportionate effects on distinct human populations and effects to current and future generations. The Amendment Application must describe ways to address the issues raised, such as alternative means, specific mitigation measures or specific monitoring programs and adaptive management to deal with uncertainty.	Summary of Local Government Engagement	Section 8.2
8.2	Local Government	The Amendment Application must identify local government concerns that were not addressed, if any, and provide reasons why the concerns were not addressed.	Summary of Local Government Engagement	Section 8.2
8.2	Local Government	The Amendment Application must also provide details regarding any future plans to keep local governments involved.	Future Plans for Local Government Engagement	Section 8.2.3
9.0	**Valued Components Selection**			
9.0	Valued Components Selection	The Amendment Application must provide a list of the Valued Components (VCs) considered in the effects assessment. The list of VCs selected for the Amendment Application (i.e., the Project) are consistent with the most recent EAC Amendment #5, filed in Q4 2022. The list is developed based off the VCs included in the Original Application for the Mine (AMEC 2004) and was updated to reflect current language, expectations, and concerns, to align with the EAO guidance presented in its Effects Assessment Policy (BCEAO April 2020b), and the Application Information Requirements (AIR) Guide (EAO April 2020a). Subcomponents have also been identified for each VC for the assessment of effects. Subcomponents were selected that reflect input received from the Tahltan Nation to date and current industry standards. The VCs have been selected in collaboration with the TCG as the TCG is carrying out the Tahltan Risk Assessment, as per the Consent Agreement and as guided by the Tahltan Impact Assessment Policy. The TCG has been involved in the development of this AAIR.	Selection of Valued Components	Section 9
9.0	Valued Components Selection	The Amendment Application must provide a list of the Valued Components (VCs) considered in the effects assessment. The list of VCs selected for the Amendment Application (i.e., the Project) are consistent with the most recent EAC Amendment #5, filed in Q4 2022. The list is developed based off the VCs included in the Original Application for the Mine (AMEC 2004) and was updated to reflect current language, expectations, and concerns, to align with the EAO guidance presented in its Effects Assessment Policy (EAO 2020b), and the Application Information Requirements Guidelines (EAO 2020a). Subcomponents have also been identified for each VC for the assessment of effects. Subcomponents were selected that reflect input received from the Tahltan Nation to date and current industry standards. The VCs have been selected in collaboration with the TCG as the TCG is carrying out the Tahltan Risk Assessment, as per the Consent Agreement and as guided by the Tahltan Impact Assessment Policy. Though the TCG has been involved in the early development of the AAIR and its valued components, the Tahltan Risk Assessment may use different values.	Selection of Valued Components	Section 9
9.1	Identification of Valued Components	VCs are organized into the following five pillars, in alignment with the EAO's Guidelines for the Selection of Valued Components and Assessment of Potential Effects (EAO 2013): Environmental, Health, Social, Economic, and Cultural.	Selection of Valued Components	Section 9

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
10.0	**Valued Component Assessment Methods**			
10.0	Valued Component Assessment Methods	The Amendment Application must describe the method used to assess the effects of the Project. The Amendment Application must describe how scientific, Tahltan, Indigenous, and local knowledge, as provided, was used in the assessment. The assessment method will be guided by:	Valued Component Assessment Methods	Section 10.0
10.0	Valued Component Assessment Methods	Application Information Requirements Guideline (EAO 2020a);	Relevant Statutes, Policies and Frameworks	Section 10.2
10.0	Valued Component Assessment Methods	Effects Assessment Policy, (EAO 2020b); and	Relevant Statutes, Policies and Frameworks	Section 10.2
10.0	Valued Component Assessment Methods	Human and Community Wellbeing Guideline (EAO 2020c).	Relevant Statutes, Policies and Frameworks	Section 10.2
10.0	Valued Component Assessment Methods	Declaration Act Consent Decision-Making Agreement for Red Chris Porphyry Copper-Gold Mine Project between the TCG and the province of British Columbia (November 1, 2023)	Relevant Statutes, Policies and Frameworks	Section 10.2
10.0	Valued Component Assessment Methods	The Amendment Application must outline how Tahltan Knowledge was used in alignment with the Tahltan Nation policies and protocols. Further, when Tahltan Knowledge is included in the Amendment Application, the text must confirm that the Tahltan Nation has provided consent for its use and public disclosure. Before the Amendment Application submission, the Tahltan Nation must review the text to ensure that the Tahltan Knowledge has been appropriately characterized within the application.	Potential Effects	Section 10.6
10.1	Relevant Statutes, Policies, and Frameworks	The Amendment Application must summarize the regulatory and planning context for management of the VCs, including relevant legislation, policies, and frameworks specific to the VCs. These may include various Acts, regulations, policies, standards, cooperation agreements, and/or decision-making frameworks including First Nation legislation or policy.	Relevant Statutes, Policies and Frameworks	Section 10.2
10.2	Assessment Boundaries	The Amendment Application must describe the spatial, temporal, administrative, and technical boundaries of each VC and each subcomponent to be used in assessing the potential adverse and positive environmental, economic, social, cultural, and health effects of the Project, as applicable. The Amendment Application must also describe the methods used to identify boundaries and provide a rationale for each boundary. Information on boundaries for each VC (or subcomponent) must be included in the appropriate VC sections of the Amendment Application, and must encompass relevant Project stages, components, and activities. The Amendment Application must explain how NRCML has considered the information received from the Tahltan Nation in its definition of spatial and temporal boundaries, particularly for VCs related to effects to the Tahltan Nation.	Assessment Boundaries	Section 10.3
10.2.1	Spatial Boundaries	Spatial boundaries will be limited to the Province of BC's or the Government of Canada's jurisdiction. The spatial boundary maps for VCs (or subcomponents) must clearly identify parts of the Project footprint located on lands and waters that lie within federal jurisdiction or treaty lands. It is noted that the Tahltan Territory extends beyond the provincial Administrative Boundaries. The Amendment Application will not evaluate any potential Project effects that extend beyond the BC border, as demonstrated on the figures defining spatial study area boundaries for each of the VCs. The following spatial boundaries must be used in the effects assessment:	Spatial Boundaries	Section 10.3.1
10.2.1	Spatial Boundaries	Project Footprint: Includes the areas in which the footprint of temporary and permanent physical works associated with the Project and the area within which physical activities associated with the Project will occur (Figure 1-4).	Spatial Boundaries	Section 10.3.1
10.2.1	Spatial Boundaries	Red Chris Mine Footprint (RCMF) Includes the existing mine footprint, the footprint of permitted but not yet constructed components, plus the Project Footprint. The RCMF includes temporary and permanent physical works associated with the Project and the area within which physical activities associated with the Project will occur (Figure 10-1).	Spatial Boundaries	Section 10.3.1

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
10.2.1	Spatial Boundaries	Local Assessment Area (LAA): The LAA is comprised of an area within which all (or most) residual Project effects are expected to occur. The LAA encompasses the RCMF and the zone of influence of the Project (i.e., the spatial limit beyond which the residual environmental effects of the Project are not detectable), including areas that may be affected by direct and indirect Project effects and Lost Creek and Ealue Lake. The LAA is specific to each VC for the effects assessment.	Spatial Boundaries	Section 10.3.1
10.2.1	Spatial Boundaries	Regional Assessment Area (RAA): The RAA is used to provide context for the assessment of residual Project effects and includes the LAA. The RAA is typically based on a natural transition (e.g., watershed boundary, ecological zone) or an artificial delineation (e.g., political or economic district or zone) that is relevant to the VC to understand the context for the effect. The RAA is specific to each VC.	Spatial Boundaries	Section 10.3.1
10.2.1	Spatial Boundaries	Cumulative Effects Assessment (CEA) Area: The RAA may be used as the spatial boundary for the assessment of potential cumulative effects, or a different boundary may be chosen that better reflects the nature of cumulative effects relevant to the Project's residual effects. The spatial boundary for a CEA for a VC encompasses the area within which the residual effects of the Project are likely to interact cumulatively with the effects of other past, present, and reasonably foreseeable future projects and activities on that same VC.	Spatial Boundaries	Section 10.3.1
10.2.1	Spatial Boundaries	Tahltan Areas of Interest (AOI) as they relate to Tahltan Values must be discussed within the Amendment Application. The AOI are discussed in Section 4.0 of this AAIR document.	Spatial Boundaries	Section 10.3.1
10.2.1	Spatial Boundaries	Table 10-1 presents the proposed LAA and RAA extents and associated rationale. The proposed spatial boundaries for the selected VCs are presented in Figure 10-2 to Figure 10-15.	Assessment Boundaries (Chapter 11)	Section 11.3.4 Figure 11.3-2 Section 11.4.4 Figure 11.4-2 Section 11.5.5 Figure 11.5-2 Figure 11.5-3 Section 11.6.4 Figure 11.6-2 Section 11.7.5 Figure 11.7-2 11.7-3 Section 11.8.4 Figure 11.8-2 Section 11.9.4 Figure 11.9-2 Section 11.10.4 Figure 11.10-2 Section 11.11.4 Figure 11.11-2 Section 11.12.4 Figure 11.12-2 Section 11.13.1.5 Section 11.13.2.4 Figure 11.13-2 Section 11.14.4 Figure 11.14-2 Section 11.15.4 Figure 11.15-2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
10.2.1	Spatial Boundaries	NRCML must provide shapefiles of the proposed Project footprint and the footprint of known offsite components (including the transportation route): • Shapefiles in ESRI format and include four file types: .shp, .shx, .dbf, .prj, and KMZ files. • Shapefiles in BC Albers (NAD83) projection. • Shapefile polygons and their corresponding polygons on all maps will be identical in shape, size, and location. • Spatial features (.shp and .shx) will be represented as polygons, not as points or line features. • Shapefiles will be named in a way that clearly describes the contents. • The follow best practices will be employed: avoid starting names by number, add an underscore instead of a space or dash, and do not include a symbol outside of the underscore. Shapefiles demonstrating the overlap of known Project components with any identified communities or locations of interest to the public. This may include information regarding specific sites of importance to a First Nation or their territory, if this information is not confidential in nature and an First Nation has agreed to allow the information to be shared.	Will be provided under separate cover	
10.2.2	Temporal Boundaries	Temporal limits of the Project consider the different stages of the Project as follows:	Temporal Boundaries	Section 10.3.2
10.2.2	Temporal Boundaries	Construction Stage: Development of the Project's underground and surface infrastructure; including any overlapping period from surface to underground mining. Estimated to last approximately 3 years.	Temporal Boundaries	Section 10.3.2
10.2.2	Temporal Boundaries	Operations Stage: During this stage, underground mining becomes the sole source of ore to the process plant. Estimated to last approximately 12 years.	Temporal Boundaries	Section 10.3.2
10.2.2	Temporal Boundaries	Closure and Post-Closure Stages: Decommissioning of surface and underground infrastructure; access to underground workings will be blocked from access and flooding of the cave will occur for approximately six years in duration. Post-Closure will follow Closure and last in perpetuity. Following closure, the open pit/block cave will continue to fill with water with the maximum water level expected to be reached in approximately 60 to 70 years, at which point pumping of treated water from the open pit/block cave to the TIA is proposed: assumed to be 100 years for assessment purposes.	Temporal Boundaries	Section 10.3.2
10.2.2	Temporal Boundaries	Temporal boundaries will be used in the effects assessment and will be described separately for key individual Project stages.	Temporal Boundaries	Section 10.3.2
10.2.2	Temporal Boundaries	The Amendment Application will identify infrastructure, facilities, activities, and effects that are anticipated to be permanent in duration.	Temporal Boundaries	Section 10.3.2
10.2.2	Temporal Boundaries	VCs with specific temporal boundaries that reflect how long the VC will experience effects will be identified.	Temporal Boundaries	Section 10.3.2
10.2.2	Temporal Boundaries	The temporal boundaries for the CEA will consider past, present, and reasonably foreseeable projects and activities.	Temporal Boundaries	Section 10.3.2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
10.2.3	Administrative and Technical Boundaries	The Amendment Application must describe where administrative or technical boundaries have constrained the assessment of potential effects, the nature of the boundaries, and their influence on the assessment. This context must be documented in the applicable VC Chapter. Administrative boundaries refer to the limitations imposed on an effects assessment by political, economic, or social constraints. The Project lies within the Tahltan administrative boundary; hence, the effects assessment must incorporate Tahltan identified AOI , which may influence the boundaries of the effects assessment Technical boundaries refer to the constraints imposed on an environmental assessment by limitations in the ability to predict the potential effects of a project. Technical boundaries may not apply to every VC or every assessment. Where technical boundaries have constrained the identification and/or assessment of potential effects of the Project, the nature of the technical boundaries and their limiting effect on the assessment are documented. The use of models to predict project effects on a VC may impose technical limitations on the analysis (e.g., assumptions that may affect the margin of error).	Administrative and Technical Boundaries	Section 10.3.3
10.3	Existing Conditions	For each VC (or subcomponent), the Amendment Application must describe the existing conditions resulting from the construction and operation of the Mine up until 2023 in sufficient detail to enable a comparison with background conditions and predicted effects presented in the Original Application (AMEC 2004). This description may include characteristics of the VC (or subcomponent) itself and other components upon which the integrity of the VC relies. The Amendment Application must clearly state data limitations, and where there were gaps in data availability to support the Original Application (AMEC 2004). The Amendment Application must include:	Existing Conditions	Section 10.4
10.3	Existing Conditions	A description of background conditions for each VC prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available.	Existing Conditions	Section 10.4
10.3	Existing Conditions	Reference to natural and/or human-caused trends observed between background conditions (1994-2005) and existing conditions (2023) that may alter the VC irrespective of the changes that may be caused by the Project or other projects and activities in the local area (e.g., climate change).	Existing Conditions	Section 10.4
10.3	Existing Conditions	A description of existing conditions (2023) for each of the included VC's and where the existing conditions meaningfully vary from those predicted in the Original Application (AMEC, 2004).	Existing Conditions	Section 10.4
10.3	Existing Conditions	A description of the quality and reliability of the existing conditions data and its applicability for the purpose used, including any data gaps, insufficiencies, and uncertainties, particularly for the purpose of monitoring activities.	Existing Conditions	Section 10.4
10.3	Existing Conditions	An explanation of how the Mine and other past and present projects and activities in the study area have affected, or are affecting, each VC.	Existing Conditions	Section 10.4
10.3	Existing Conditions	Documentation of the methods and information sources used to compile information on existing conditions, including any standards or guidelines followed.	Existing Conditions	Section 10.4
10.3	Existing Conditions	Where appropriate and possible, information regarding existing conditions relating to people will be gathered in a disaggregated fashion in a manner that respects confidentiality. The Effects Assessment will include an overview of various identity factors to identify potentially vulnerable groups within the community.	Existing Conditions	Section 10.4
10.3	Existing Conditions	Where additional Project and VC-specific field studies are undertaken, the scope and methods used should follow published documents pertaining to data collection and analysis methods, where these are available. Where methods used for data collection deviate from applicable published guidance, the rationale for the variance will be provided in the Amendment Application.	Existing Conditions	Section 10.4
10.3	Existing Conditions	Description of Tahltan, Indigenous, and local knowledge used in the assessment.	Existing Conditions	Section 10.4

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
10.3	Existing Conditions	The Amendment Application must provide technical reports that present existing conditions data in Appendices and summarize key findings of these technical reports directly in the application. Regardless of the approach, the description of the existing conditions must be presented in a manner that allows the reader to understand the Effects Assessment for each VC (or subcomponent).	Chapter 11 appendices	
10.4	Assessment Cases	The effects assessment for each VC will consider the incremental change of the Project on the VC and associated sub-components. The following assessment cases will be considered in the effects assessment for each VC, as available	Assessment Cases	Section 10.5
10.4	Assessment Cases	Existing Conditions Case presents a current understanding of the existing conditions at Red Chris. The existing conditions case is informed by both background conditions and updated conditions.	Assessment Cases	Section 10.5
10.4	Assessment Cases	Early Closure Mine Case represents the 2024 predictions for a life -of-mine shorter than that originally identified in the Original Application. In this assessment case, the mine is assumed to enter closure in the near-term	Assessment Cases	Section 10.5
10.4	Assessment Cases	Permitted Case represents predicted conditions at Red Chris for the Mine under conditions representative of the currently permitted open pit mining operations, with the potential to continue to the year 2041. It includes some components have been permitted but not yet built or operational. This assessment case may be considered to inform the discussion of potential effects and provide a representation of the anticipated incremental change to a VC or its subcomponent.	Assessment Cases	Section 10.5
10.4	Assessment Cases	Project Case forms the basis of the discussion for the assessment of potential effects from the Project. This case includes the consideration of the existing conditions and the described Project components and activities. The Project Case is further informed by discussion of the Permitted Case; specifically, the other permitted works, that will be executed concurrently with the Project and that are necessary to support the Project.	Assessment Cases	Section 10.5
10.4	Assessment Cases	Cumulative Case includes the Project Case plus the past, present, and future reasonably foreseeable projects and activities.	Assessment Cases	Section 10.5
10.4	Assessment Cases	The assessment cases may be informed by both qualitative and quantitative data and information. Where additional modelling and data collection have been completed to further inform an understanding of conditions and trends at Red Chris, the results will be presented to inform a contextual understanding of potential effects.	Potential Effects	Section 10.6
10.5	Potential Effects	The Amendment Application must describe the potential positive and negative direct and indirect effects for each stage of the Project. The Amendment Application will summarize the methods used to identify and assess the potential effects of the Project on the identified VCs and subcomponents, including the results of any interaction between effects (to one VC or multiple VCs). For each VC, the Amendment Application must identify the potential interactions between the Project, including the various physical works and activities, and each VC (or subcomponent). The Amendment Application must describe any indicators used for the assessment of potential effects and the indicators used to facilitate the evaluation of potential Project effects. Potential interactions must be identified using a table format. Potential Project effects must be characterized according to changes from the original effects assessment as well as changes to the existing conditions.	Potential Effects	Section 10.6
10.6	Effects Management	For each VC section, the Amendment Application must:	Effects Management	Section 10.7
10.6	Effects Management	Provide information on current commitments, as per the Original Application, which remain relevant to manage effects of the change to the Project.	Effects Management	Section 10.7
10.6	Effects Management	Apply the mitigation hierarchy of avoid, minimize, and restore onsite where existing plans and policies require change;	Effects Management	Section 10.7
10.6	Effects Management	Assess any potentially negative effects associated with the mitigation method itself;	Effects Management	Section 10.7
10.6	Effects Management	Include specific mitigations required to address effects of the Project;	Effects Management	Section 10.7

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
10.6	Effects Management	Present mitigation measures that will be achievable, measurable, and verifiable in a manner that avoids ambiguity;	Effects Management	Section 10.7
10.6	Effects Management	Focus on the incremental changes needed to the overall permitted Mine Closure and Reclamation Plan. A summary of the overall Closure and Reclamation Plan will be included for context.	Effects Management	Section 10.7
10.6	Effects Management	Where possible, include a description of how disproportionate effects to diverse subgroups were used to inform mitigation and enhancement measures; and	Effects Management	Section 10.7
10.6	Effects Management	Consider a Follow-Up Strategy that includes monitoring positive and negative effects and will be included under each VC section, where applicable.	Assessing Positive Effects Assessing Negative Effects	Section 10.8 Section 10.9
10.7	Assessing Positive Effects	In alignment with the EAO (2020b) Effects Assessment Policy, the Amendment Application must:	Assessing Positive Effects	Section 10.8
10.7	Assessing Positive Effects	Identify and assess predicted positive effects;	Assessing Positive Effects	Section 10.8
10.7	Assessing Positive Effects	Describe how long-term trends (e.g., changing environment, employment, and technology) and market fluctuations have been considered;	Assessing Positive Effects	Section 10.8
10.7	Assessing Positive Effects	Characterize the potential positive effect; and	Assessing Positive Effects	Section 10.8
10.7	Assessing Positive Effects	Describe how the positive effect may be monitored and adaptively managed.	Assessing Positive Effects	Section 10.8
10.8	Assessing Negative Effects	Negative effects may result from interactions between the Project and VCs, and may be avoided, minimized, or restored through the application of mitigation and management measures. Following the identification of mitigation and management measures, any residual negative effects on VCs must be assessed and described. For each potential effect, the Amendment Application must:	Assessing Negative Effects	Section 10.9
10.8	Assessing Negative Effects	Describe the analytical methods used to assess the negative effect, including modelling approaches;	Assessing Negative Effects	Section 10.9
10.8	Assessing Negative Effects	Identify assumptions used in analytical methods; and	Assessing Negative Effects	Section 10.9
10.8	Assessing Negative Effects	Describe the nature and degree of uncertainty or conservatism related to the data, modelling, and methods used for the analysis.	Assessing Negative Effects	Section 10.9
10.8	Assessing Negative Effects	Where appropriate, and where the best practice or evidence-based thresholds exist, adverse effects will be described quantitatively using these thresholds. Where a quantitative description is not possible, an explanation will be provided as to why it is not feasible, and the effects will be described qualitatively. When residual effects on a VC are predicted and the VC is also considered a “pathway” for other potential effects on other VCs, the Amendment Application will identify the linkages between the VCs.	Assessing Negative Effects	Section 10.9
10.9	Characterization of Residual Effects	The Amendment Application must present the results of the assessment, including a detailed description of any potential residual effect (the description of the potential effect can be either qualitative or quantitative). For negative residual effects, the Amendment Application must:	Characterization of Residual Effects	Section 10.10

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
10.9	Characterization of Residual Effects	Provide a detailed characterization of residual effects following the implementation of mitigation measures.	Characterization of Residual Effects	Section 10.10
10.9	Characterization of Residual Effects	• Fully describe the context of the effect(s) using qualitative and/or quantitative information, including: o Potential trends in the condition of the VC; and o Vulnerability and resiliency of the VC.	Characterization of Residual Effects	Section 10.10
10.9	Characterization of Residual Effects	• Use the following criteria for every residual effect in characterizing residual effects: o Magnitude; o Geographic Extent; o Duration; o Reversibility; o Frequency; o Affected populations; and o Risk and uncertainty.	Characterization of Residual Effects	Section 10.10
10.9	Characterization of Residual Effects	Further define the criteria/terms used to characterize the residual effects.	Characterization of Residual Effects	Section 10.10
10.9	Characterization of Residual Effects	Describe the likelihood of whether a residual effect is likely to occur using appropriate quantitative or qualitative terms and enough description to understand how the conclusions were reached; and	Characterization of Residual Effects	Section 10.10
10.9	Characterization of Residual Effects	Identify the linkages between the residual effects and other VCs, should there be a pathway for potential effects to other VCs.	Characterization of Residual Effects	Section 10.10
10.10	Cumulative Effects Assessment	The Amendment Application must:	Cumulative Effects Assessment	Section 10.11
10.10	Cumulative Effects Assessment	Identify and provide a rationale for the VCs with negative residual effects that will be the focus of the CEA.	Cumulative Effects Assessment	Section 10.11
10.10	Cumulative Effects Assessment	Provide a rationale to justify the exclusion of other VCs from the CEA, as applicable.	Cumulative Effects Assessment	Section 10.11
10.10	Cumulative Effects Assessment	Identify and justify the spatial and temporal boundaries for the CEA for each VC selected.	Cumulative Effects Assessment	Section 10.11
10.10	Cumulative Effects Assessment	Identify past, present, and reasonably foreseeable future projects and activities that have been or that are likely to be carried out that could interact cumulatively with each selected VC within the boundaries defined, and whose residual effects would act in combination with the residual effects of the Project.	Cumulative Effects Assessment	Section 10.11
10.10	Cumulative Effects Assessment	Identify the methods used to determine potential cumulative effects, including data sources and collection methods, data analysis, and any other relevant assessment information.	Cumulative Effects Assessment	Section 10.11
10.10	Cumulative Effects Assessment	Identify potential cumulative effects to each VC selected by comparing the existing and future conditions. The effects of past and current activities (activities that have been carried out) are to be used to contextualize the current state of the VC.	Cumulative Effects Assessment	Section 10.11
10.10	Cumulative Effects Assessment	Consider climate change as part of future conditions, or a rationale will be provided to justify the exclusion of climate change impacts on the VC.	Cumulative Effects Assessment	Section 10.11

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
10.10	Cumulative Effects Assessment	Describe the mitigation measures that are technically and economically feasible to eliminate or reduce adverse cumulative effects.	Cumulative Effects Assessment	Section 10.11
10.10	Cumulative Effects Assessment	Quantify, where appropriate, and evaluate residual cumulative effects using the characterization of residual effects described above.	Cumulative Effects Assessment	Section 10.11
10.10	Cumulative Effects Assessment	Figure 10-16 presents past, present, and reasonably foreseeable Projects to be considered for the CEA. This figure includes the Projects located within the largest CEA proposed among all VCs; and the Projects to be considered for the CEA of each specific VC will correspond to the ones falling within their proposed CEA Areas. In addition to the Projects presented in this figure; other activities to be considered in the CEA include: • Forestry • Guide Outfitting • Mineral Exploration • Recreations Use • Trapping • Transportation • Water Use.	Cumulative Effects Assessment Location of Projects to be Considered in the Cumulative Effects Assessment	Section 10.11 Figure 10-5
10.11	Follow-up Strategy	Where a residual effect and/or cumulative effect has been identified for a VC, the Amendment Application must include a description of a follow-up strategy, where appropriate, that:	Follow-up Strategy	Section 10.12
10.11	Follow-up Strategy	Identifies the measures to ensure that mitigation measures are implemented as planned and evaluates the accuracy of the predicted effects.	Follow-up Strategy	Section 10.12
10.11	Follow-up Strategy	Identifies the measures to evaluate the effectiveness of proposed mitigation measures to meet the intended mitigation commitments and goals.	Follow-up Strategy	Section 10.12
10.11	Follow-up Strategy	Identifies the regulatory instruments that include a monitoring requirement for the VC.	Follow-up Strategy	Section 10.12
10.11	Follow-up Strategy	Proposes an appropriate strategy (e.g., adaptive management) to apply if predicted effects and mitigation effectiveness are not as expected. This includes reference to further mitigation, involvement of key stakeholders, Indigenous Nations, government agencies, and any other measures deemed necessary to manage the issue.	Follow-up Strategy	Section 10.12
10.11	Follow-up Strategy	Identifies a mechanism to disseminate follow-up results among interested parties.	Follow-up Strategy	Section 10.12
10.11	Follow-up Strategy	Identifies the involvement of First Nations in the follow-up strategy design and the implementation and evaluation of the follow-up results, as well as any updates, including a communication mechanism between the Nations and the Certificate Holder.	Follow-up Strategy	Section 10.12
11.0	**Valued Components Effects Assessment**			
11.0	Valued Components Effects Assessment	Each VC Section will include an introduction that will outline the subcomponents associated with the VC, the purpose for inclusion of the VC, and the rationale for inclusion, as presented in Table 7-1.	Valued Components Effects Assessment	Section 11.0
11.1	Environmental And Community Context	This section must provide a landscape-level overview of the Project area that sets the context for the assessment. The Mine site is an existing operational open pit mine with existing components and activities. More detailed information on the existing conditions for each VC will be included in the relevant VC assessment section, to support development of the summary chapters.	Environmental And Community Context	Section 11.1

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.2	Hyperlinks To Tahltan Requirements	This section of the Amendment Application provides the hyperlinks between the Tahltan Values, AAIR, and effects assessment requirements found in Section 4.0 Tahltan Amendment Application Information Requirements, and the VCs, technical AAIR and effects assessment requirements identified here. The approach in understanding the relationship between Section 4.0 and this VC section for the Amendment Application will rely on the Tahltan providing relevant information to NRCML. Each Tahltan Value will be characterized, as applicable, in both sections, with the reporting of effects based on Tahltan requirements found in Section 4.0 and technical requirements found here. Some values will include information and effects outcomes that may be applicable in both and will be indicated accordingly by hyperlinks. In addition, at the start of each VC effects assessment section, a hyperlink to the Tahltan section for a common value will be identified to allow for those interested to move easily between sets of requirements.	Tahltan Hyperlink Requirements	Section 11.2
11.3	**Air Quality**			
11.3	Air Quality	The approach will generally follow the methods outlined in Section 10.0 and any VC-specific deviations will be described. The Amendment Application will identify linkages across VCs. This section of the Amendment Application will include the below headings and information.	Air Quality	Section 11.3
11.3.1	Relevant Statutes, Policies and Frameworks	Statutes, policies, and frameworks that may be relevant to the Air Quality VC include: • Canadian Environmental Protection Act (1999), and regulations; • Environmental Management Act (2003), and regulations; • Environmental Assessment Act (B.C. Government 2018); • B.C. Ministry of Environment (n.d.-a): Air Quality Management System; • B.C. Ministry of Environment (n.d.-b): Air quality Regulatory Framework; • British Columbia Ambient Air Quality Objectives (2021); • Canadian Ambient Air Quality Standards (2020); • British Columbia Air Quality Dispersion Modelling Guideline (2022); • Guidance on Developing a Fugitive Dust Management Plan for Industrial Projects (Ministry of Environment and Climate Change Strategy (ENV) and the Ministry of Energy, Mines and Low Carbon Innovation2023); • Guidance on Application of Provincial Air Quality Objectives for NO_2 (ENV 2021); • Guidance for NO_2 Dispersion Modelling In British Columbia (ENV 2022b); • Guidance on Application of Provincial Air Quality Objectives for SO_2 (ENV 2017); • Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air Quality (Health Canada 2016a); • Multi-Sector Air Pollutants Regulations (2016); • Meteorological Data and Sensing Requirements in the B.C. Ministry of Environment (B.C. ENV, 2013) Mines Act, including the Health, Safety and Reclamation Code for Mines in British Columbia (Ministry of Energy, Mines and Low Carbon Innovation 2022); • Open Burning Smoke Control Regulation (B.C. Reg. 152/2019); • Provincial Guidance on Application of Provincial Air Quality Objectives (Government of B.C. 2022a); and • Water and Air Baseline Monitoring Guidance Document for Mine Proponents and Operations (ENV 2016a). • Canadian Guidelines for the Management of Naturally Occurring Radioactive Materials	Relevant Statutes, Policies and Frameworks Block Cave Project Air Quality Report	Section 11.3.3 Appendix 11.3-B

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.3.2	Assessment Boundaries	Assessment boundaries will be updated from the Original Application (AMEC 2004) for the Air Quality VC, including spatial, temporal, administrative, and technical boundaries. The Amendment Application will identify and justify the spatial and temporal boundaries for the air quality assessment. Section10.2 introduces spatial boundaries to be used in the assessment of effects for Air Quality. These boundaries are detailed in Table 10 1 and provided below. Local Assessment Area • Extent: is a 25 km by 25 km domain that captures the process plant location in the southeast quadrant and includes the closest community to the Project, the Community of Iskut in the northwest quadrant. Justification: The LAA was selected to include existing developments within the Project footprint, as well as surrounding areas that may be affected by the Project that provide important environmental, economic, social, cultural, and health context.	Assessment Boundaries	Section 11.3.4
11.3.2	Assessment Boundaries	Regional Assessment Area • Extent: Area is a 42 km by 47 km domain, which encompasses the LAA. Justification: The RAA was established to provide the regional context for the air quality effects and to understand the scale of potential Project-related effects within the broader region.	Assessment Boundaries	Section 11.3.4
11.3.3	Existing Conditions	The focus of this section of the Amendment Application will be to summarize existing climate and air quality conditions and to establish suitable assessment areas to capture effects of the Project. A brief overview of existing air quality conditions will be provided through publicly available data, annual air quality monitoring reports, and modelling. The investigative approach for this desktop study must consist of the following methods:	Existing Conditions	Section 11.3.6
11.3.3	Existing Conditions	• A description of background conditions for air quality prior to the development of Red Chris using information presented in the Original Application (AMEC 2004), as available.	Background Conditions	Section 11.3.6.1
11.3.3	Existing Conditions	• Identification of existing air quality management plans effective in the Project area.	Updated Conditions	Section 11.3.6.2
11.3.3	Existing Conditions	• Description and review of previously collected data from the ambient air quality and meteorological stations within the RAA available using B.C. Air Data and ambient air quality and meteorological stations available in the RAA. .	Updated Conditions	Section 11.3.6.2
11.3.3	Existing Conditions	• Review of data from existing ambient air quality stations.	Updated Conditions	Section 11.3.6.2
11.3.3	Existing Conditions	• Description and review of climate factors and Canadian Climate Normals that may influence air quality, including the direction and velocity of dominant winds and frequency of atmospheric inversions. This may also include temperature, precipitation (rain and snow) (i.e., mean annual precipitation, monthly precipitation distribution, wet and dry year precipitation, and snowfall depth and duration), and wind.	Updated Conditions	Section 11.3.6.2
11.3.3	Existing Conditions	• Review of seasonal variability in the existing data, including a determination of ambient contaminant concentrations, and provide monitoring data of appropriate duration, representativeness, data completeness, data validation, and quality control.	Updated Conditions	Section 11.3.6.2
11.3.3	Existing Conditions	• Description of current activities in the Project area that may affect the airshed to characterize ambient air quality by identifying and quantifying emission sources of critical air contaminants. Critical air contaminants that will be included are total suspended particulates (TSP), fine particulates smaller than 2.5 microns (PM2.5), fine particulates smaller than 10 microns (PM10), Carbon monoxide (CO), sulphur dioxide (SO_2), nitrogen oxides (NO_x), and selected metals. In addition to the critical air contaminants, diesel particulate (DPM) matter will be included in the assessment.	Updated Conditions	Section 11.3.6.2
11.3.3	Existing Conditions	• Review of permitted existing and proposed industrial emission sources, including locations of permitted discharges to air within the LAA and the RAA;	Updated Conditions	Section 11.3.6.2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.3.3	Existing Conditions	• Review of air dispersion modelling assessment of a base case, developed in accordance with Provincial standards, to account for existing pollutant sources and to determine the spatial distribution of pollutants in the LAA and RAA.	Assessment Cases Block Cave Project Air Quality Technical Report	Section 11.3.7 Section Appendix 11.3-B
11.3.3	Existing Conditions	• Description of available Indigenous or local knowledge related to current air quality conditions.	Indigenous Perspectives on Existing Conditions	Section 11.3.6.3
11.3.3	Existing Conditions	• Review of publicly available reports or information.	Existing Conditions	Section 11.3.6
11.3.3	Existing Conditions	• How trends in climate change may be a contributing factor to the current state and trend of air quality.	Updated Conditions	Section 11.3.6.2
11.3.4	Potential Effects	The Amendment Application must describe potential effects to the Air Quality VC, identify interactions between the Project and these effects, and outline indicators that will be used to measure these effects, as described in Section 10.5. Potential effects related to air quality will be presented for the Project, which are provided in Table 9 1. • Changes in ambient concentrations combustion and fugitive gases • Changes in ambient concentrations of particulate matter	Potential Effects	Section 11.3.8
11.3.5	Effects Management	The Amendment Application must describe effects management approaches for air quality consistent with Section 10.6, as appropriate.	Effects Management	Section 11.3.10
11.3.6	Assessing Positive Effects	The Amendment Application must describe positive effects on air quality that are anticipated because of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessment and Characterization of Positive Effects	Section 11.3.11
11.3.7	Assessing Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to air quality that are anticipated because of the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8.	Assessing Negative Effects	Section 11.3.12
11.3.8	Characterization of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to air quality, including the criteria outlined in Section 10.9.	Assessing Negative Effects	Section 11.3.12
11.3.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on air quality following the methods outlined in Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.3.13
11.3.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Air Quality VC following the approach outlined in Section 10.11.	Follow-up Strategy	Section 11.3.14
11.4	**Acoustics**			
11.4	Acoustics	The approach will generally follow the methods outlined in Section 10.0, and any VC-specific deviations will be described. The Amendment Application must identify which other VCs this VC is linked to and describe how the results of the Effects Assessment will be integrated into those of other VCs. This section of the Amendment Application will include the following headings and information.	Acoustics	Section 11.4

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.4.1	Relevant Statutes. Policies and Frameworks	Statutes, policies, and frameworks that may be relevant to the Acoustics VC include: • Municipal bylaws; • Canadian Environmental Protection Act (1999) and regulations; • *Environmental Management Act* (2003) and regulations; • *Environmental Assessment Act* (B.C. Government 2018); and • *Mines Act*, including the Health, Safety and Reclamation Code for Mines in British Columbia (Ministry of Energy, Mines and Low Carbon Innovation 2022). Other guidance that may be used for reference are: • Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise (Health Canada 2017); • British Columbia Noise Control Best Practices Guideline (B.C. Oil and Gas Commission 2021); • Environmental Code of Practice for Metal Mines (Environment Canada 2009); and Noise Exposure Forecast Method (NEF) system (Transport Canada software).	Relevant Statutes. Policies and Frameworks	Section 11.4.3
11.4.2	Assessment Boundaries	Assessment boundaries must be defined for the Acoustics VC, including spatial, temporal, and administrative and technical boundaries. Section 10.2 introduces the spatial boundaries to be used in the acoustics assessment. These boundaries are detailed in Table 10 1 and provided below. Local Assessment Area and Regional Assessment Area: • Extent: Buffer of 10 km around Red Chris Mine activities and 5 km from offsite mine traffic routes. Justification: To cover the potential extent of sound and vibration propagation from existing and future mining activities and offsite traffic compared to existing conditions.	Spatial Boundaries	Section 11.4.4.1 Figure 11.4-2
11.4.3	Existing Conditions	The focus of this section of the Amendment Application will be to summarize the existing sound and vibration conditions and to establish a suitable assessment area to capture effects of the Project to human and wildlife receptors. Existing conditions will be established based on information collected during the February 2024 Sound and Vibration Monitoring Survey. The Amendment Application must:	Existing Conditions	Section 11.4.6
11.4.3	Existing Conditions	Provide a description of background conditions for acoustics prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available.	Background Conditions	Section 11.4.6.1
11.4.3	Existing Conditions	Review previously collected sound level and vibration data collected during the operation of the currently permitted operations to date, through perimeter sound level monitoring and occupational sound exposure assessment reports.	Updated Conditions	Section 11.4.6.2
11.4.3	Existing Conditions	Describe existing sound levels and vibration at identified receptor points. This will include providing results of the sound and vibration survey and assessment criteria for each receptor.	Updated Conditions	Section 11.4.6.2
11.4.3	Existing Conditions	Describe typical sound and vibration sources, geographic extent, and temporal variations.	Updated Conditions	Section 11.4.6.2
11.4.3	Existing Conditions	Describe locations and characteristics of the most sensitive receptors including human receptors, traditional land use sites, and species at risk. The section will also consider areas of peace and quiet (e.g., traditional land use by Tahltan) where information is available.	Updated Conditions	Section 11.4.6.2
11.4.3	Existing Conditions	Describe noise management procedures and plans in place.	Effects Management	Section 11.4.9
11.4.3	Existing Conditions	Describe available Indigenous or local knowledge related to the existing conditions.	Tahltan Nation Perspective on Acoustics	Section 11.4.1

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.4.3	Existing Conditions	Review of publicly available reports or information.	Background Conditions	Section 11.4.6.1
11.4.3	Existing Conditions	How trends in climate change may be a contributing factor to the current state and trend of acoustics.	Updated Conditions	Section 11.4.6.2

11.4.4	Potential Effects	Potential Effects
		The Amendment Application must describe potential effects to the Acoustics VC, identify interactions between the Project and these effects, and outline indicators that will be used to measure these effects, as described in Section 10.5. Potential effects related to acoustics sub-components will be presented for the Project which are provided in Table 9-1.
		• Noise
		  ○ Change to sound levels
		• Vibration
		  ○ Change in ground vibration levels
			Potential Effects	Section 11.4.8

11.4.5	Effects Management	The Amendment Application must describe effects management approaches for acoustics consistent with Section 10.6 as appropriate.	Effects Management	Section 11.4.9
11.4.6	Assessment of Positive Effects	The Amendment Application must describe positive effects to the Acoustics VC that are anticipated as a result of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessment and Characterization of Positive Effects	Section 11.4.10
11.4.7	Assessment of Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to the Acoustics and Vibration VC that are anticipated because of the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8.	Effects Management Uncertainty and Risk	Section 11.4.9 Section 11.4.11.1
11.4.8	Characterization of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to the Acoustics VC, including the criteria outlined in Section 10.9.	Assessment of Negative Effects	Section 11.4.11
11.4.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on acoustics following the methods outlined in Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.4.12
11.4.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Acoustics VC following the approach outlined in Section 10.11.	Follow-up Strategy	Section 11.4.13
11.5	**Surface Water**			
11.5	Surface Water	The approach will generally follow the methods outlined in Section 10.0, and any VC-specific deviations will be described. The Amendment Application must identify which other VCs this VC is linked to and describe how the results of the Effects Assessment will be integrated into those of other VCs. This section of the Amendment Application will include the following headings and information.	Surface Water	Section 11.5

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix

11.5.1	Relevant Statutes, Policies and Frameworks	Statutes, policies, and frameworks that may be relevant to the Surface Water VC include:
		• *Water Sustainability Act*;
		• *Environmental Management Act*;
		• *Fisheries Act*;
		• *Drinking Water Protection Act*;(MDMER)
		• BC Water Quality Guidelines;
		• Manual of Standard Operation Procedures for Hydrometric Surveys in British Columbia;
		• BC Environmental Flow Needs Policy;
		• Government Actions Regulation under the Forest and Range Practices Act; and
		• Mining-specific statutes, policies, and frameworks, as applicable:
		  ○ *Mines Act*, including the Health, Safety and Reclamation Code for Mines in British Columbia (MEMLCO 2022);
		  ○ Metal and Diamond Mining Effluent Regulations (MDMER);
		  ○ Water and Air Baseline Monitoring Guidance Document for Mine and Operations;
		  ○ Manual of British Columbia Hydrometric Standards;
		  ○ Guidelines For Metal Leaching and Acid Rock Drainage at Mine Sites in British Columbia; and
		Policy for Metal Leaching and Acid Rock Drainage at Mine Sites in British Columbia.
			Relevant Statutes, Policies and Frameworks	Section 11.5.3

11.5.2	Assessment Boundaries	Assessment boundaries must be defined for the Surface Water VC, including spatial, temporal, administrative, and technical boundaries. Section 10.2 introduces the spatial boundaries for surface water quality and quantity to be used in the Effects Assessment. These boundaries are detailed in Table 10-1 and provided below.	Assessment Boundaries	Section 11.5.4
11.5.2	Assessment Boundaries	Local Assessment Area (LAA): • Extent: For assessment purposes, the LAA will align with the Original Application (AMEC 2004) study area. The LAA encompasses all drainages that could be directly affected by the Project, including Red Rock Canyon Creek, White Rock Canyon Creek, Coyote Creek, Quarry Creek, Trail Creek, and Kluea Lake, Kluea-Todagin Creek (also known as Trench Creek), Lost Creek, Ealue Lake and an unnamed creek downstream of the Northeast Dam (also referred to as Northeast Arm Creek). Justification: Same as the study area for the Original Application (AMEC 2004) to allow for comparison of predicted effects and aligns with the LAA for aquatics. Includes surface water quality and quantity sample locations within the vicinity of the Project that are associated with drainages that could be directly affected by the Project.	Spatial Boundaries	Section 11.5.4.1 Figure 11.5-2
11.5.2	Assessment Boundaries	Regional Assessment Area (RAA) • Extent: For assessment purposes, the RAA will generally align with the Original Application (AMEC 2004) study area. The RAA encompasses adjacent drainage basins within the general region of the Project, including the Klappan River Catchment downstream to its confluence with the Stikine River and the Iskut River catchment upstream of the outlet of Kinaskin Lake. Justification: Similar to the study area for the Original Application (AMEC 2004) and aligns with the RAA for aquatics. Sufficient area to provide Project-VC interactions and effects on a regional scale, including cumulative effects for the assessment of surface water quality and quantity. The RAA encompasses the maximum geographical extent in which potential effects on water quality and quantity are anticipated.	Spatial Boundaries	Section 11.5.4.1 Figure 11.5-3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.5.3	Existing Conditions	The focus of this section of the Amendment Application will be to summarize existing surface water quality and quantity conditions and establish a suitable LAA and RAA to capture the effects of the Project. The Amendment Application must:	Existing Conditions	Section 11.5.6
11.5.3	Existing Conditions	Describe background conditions for surface water quality and quantity prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available.	Background Conditions	Section 11.5.6.1
11.5.3	Existing Conditions	Describe the regional and local surface water quality conditions, including a description of the local watersheds.	Background Conditions	Section 11.5.6.1
11.5.3	Existing Conditions	Describe any Project-specific existing conditions surveys completed, including a detailed description of the methods used and how the results helped to characterize existing conditions (e.g., filled an information gap, confirmed or refuted older information).	Updated Conditions	Section 11.5.6.2
11.5.3	Existing Conditions	Describe the surface water quantity and quality results as presented in water balance and water quality models.	Updated Conditions	Section 11.5.6.2
11.5.3	Existing Conditions	Provide regional and local hydrologic and meteorologic data (hydrometric data collection is to adhere to standardized practices and procedures.	Background Conditions	Section 11.5.6.1
11.5.3	Existing Conditions	Describe the local and regional climate projections for the area with the rationale of the climate model chosen and include a description of the current and projected climate effects on surface water quantity.	Hydrometeorological Characterization Reports	Appendix 11.5-F
11.5.3	Existing Conditions	Describe the existing surface water quality and quantity conditions, as described in the most recent NRCML Mine annual surface water quality and quantity monitoring reports.;	Updated Conditions	Section 11.5.6.2
11.5.3	Existing Conditions	Describe current geochemical conditions related to surface water quality.	Updated Conditions	Section 11.5.6.2
11.5.3	Existing Conditions	Describe seasonal and inter-annual patterns in streamflow.	Updated Conditions	Section 11.5.6.2
11.5.3	Existing Conditions	Describe seasonal and inter-annual trends in water quality variables.	Updated Conditions	Section 11.5.6.2
11.5.3	Existing Conditions	Discuss changes in surface water quantity as a result of baseflow (groundwater) reductions.	Updated Conditions	Section 11.5.6.2
11.5.3	Existing Conditions	Describe water quality relative to B.C. Water Quality Guidelines.	Background Conditions	Section 11.5.6.1
11.5.3	Existing Conditions	Describe available Indigenous or local knowledge related to surface water.	Indigenous Perspective on Existing Conditions	Section 11.5.6.3
11.5.4	Potential Effects	The Amendment Application must describe potential effects to the Surface Water VC, identify interactions between the Project and these effects, and outline indicators that will be used to measure these effects, as described in Section 10.5. Potential effects related to surface water sub-components will be presented for the Project, which are provided in Table 9-1.	Potential Effects	Section 11.5.8
11.5.4	Potential Effects	Surface Water Quality	Potential Effects 3 and 4 – Changes to Surface Water Quality	Section 11.5.8.4
11.5.4	Potential Effects	Changes in surface water quality	Potential Effects 3 and 4 - Changes to Surface Water Quality	Section 11.5.8.4
11.5.4	Potential Effects	Changes to concentrations of parameters of concern in natural streams and all water bodies	Potential Effects 3 and 4 - Changes to Surface Water Quality	Section 11.5.8.4
11.5.4	Potential Effects	Surface Water Quantity	Potential Effects	Section 11.5.8
11.5.4	Potential Effects	Changes in catchment areas	Potential Effect 1 – Changes in Catchment Areas	Section 11.5.8.2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.5.4	Potential Effects	Changes in streamflows	Potential Effect 2 – Changes in Streamflow	Section 11.5.8.3
11.5.5	Effects Management	The Amendment Application must describe effects management approaches for surface water quality and quantity consistent with Section 10.6, as appropriate.	Effects Management	Section 11.5.9
11.5.6	Assessment of Positive Effects	The Amendment Application must describe positive effects to surface water quality and quantity that are anticipated as a result of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessment of Positive Effects	Section 11.5.10
11.5.7	Assessment of Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to surface water quality and quantity that are anticipated because of the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8	Assessment of Negative Effects Uncertainty and Risk	Section 11.5.11 Section 11.5.12.3
11.5.8	Characterization of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to surface water quality and quantity, including the criteria outlined in Section 10.9.	Characterization of Negative Residual Effects	Section 11.5.12
11.5.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on surface water quality and quantity following the methods outlined in Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.5.13
11.5.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Surface Water VC following the approach outlined in Section 10.11.	Follow-up Strategy	Section 11.5.14
11.6	**Groundwater**			
11.6	Groundwater	The approach will generally follow the methods outlined in Section 10.0, and any VC-specific deviations will be described. The Amendment Application will identify which other VCs this VC is linked to and describe how the results of the assessment will be integrated into those of other VCs. This section of the Amendment Application will include the following headings and information.	Groundwater	Section 11.6
11.6.1	Relevant Statutes, Policies and Frameworks	Statutes, policies, and frameworks that may be relevant to the Groundwater VC include: • B.C. Guidelines for Groundwater Modelling to Assess Impacts of Proposed Natural Development Activities; • Water Sustainability Act; • Environmental Management Act; • Drinking Water Protection Act; • BC Water Quality Guidelines; • BC Environmental Flow Needs Policy; • Government Actions Regulation under the Forest and Range Practices Act. Mining-specific statutes, policies, and frameworks: • Metal and Diamond Mining Effluent Regulations; • Mines Act, including the Health, Safety and Reclamation Code for Mines in British Columbia (MEMLCO 2022) • Water and Air Baseline Monitoring Guidance Document for Mine Operations; • Guidelines for Metal Leaching and Acid Rock Drainage at Mine sites in British Columbia. • Policy for Metal Leaching and Acid Rock Drainage at Mine Sites in British.	Relevant Statutes, Policies and Frameworks	Section 11.6.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.6.2	Assessment Boundaries	The Amendment Application must define assessment boundaries for the Groundwater VC, including spatial, temporal, administrative, and technical boundaries. Section 10.2 introduces the spatial boundaries for groundwater quality and quantity to be used in the Effects Assessment. These boundaries are detailed in Table 10-1 and provided below. Local Assessment Area: • Extent: The LAA will generally align with the Original Application (AMEC 2004) Local Study Area and the surface water quality and quantity LAA, which "encompasses all drainages that could be directly affected by the Project." • Justification: Aligns with the boundary that is used for the groundwater model domain. It encompasses groundwater monitoring well locations in the vicinity of the Project footprint. There are slight differences between the Groundwater and Surface Water LAAs that are primarily driven by the domain and boundary conditions of the groundwater modelling. These differences are not considered to affect the sufficiency of either Groundwater or Surface Water LAA in capturing VC effects.	Spatial Boundaries	Section 11.6.4.1 Figure 11.6-2
11.6.2	Assessment Boundaries	Regional Assessment Area • Extent: The RAA will generally align with the Original Application (AMEC 2004) Regional Study Area. Justification: Similar to the Regional Study Area for the Original Application (AMEC 2004), which "encompasses adjacent drainage basins not directly affected by the Project, but within the general region of the development" and aligns with the RAA for surface water quantity and quality and aquatics. Sufficient area to provide Project-VC interactions and effects on a regional scale, including cumulative effects. The RAA encompasses the maximum geographical extent in which potential effects on groundwater quality and quantity are anticipated.	Spatial Boundaries	Section 11.6.4.1 Figure 11.6-2
11.6.3	Existing Conditions	The focus of this section of the Amendment Application will be to summarize the existing groundwater quality and quantity conditions and establish a suitable study area to capture the effects of the Project. The Amendment Application must:	Existing Conditions	Section 11.6.6
11.6.3	Existing Conditions	Describe background conditions for groundwater quality and quantity prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available.	Background Conditions	Section 11.6.6.1
11.6.3	Existing Conditions	Describe Project-specific surveys completed, including a detailed description of the methods used and how the results helped to characterize existing conditions (e.g., filled an information gap, confirmed or refuted older information);	Background Conditions Updated Conditions	Section 11.6.6.1 Section 11.6.6.2
11.6.3	Existing Conditions	Provide a description of the groundwater quality and quantity results as presented in water balance and groundwater models;	Updated Conditions	Section 11.6.6.2
11.6.3	Existing Conditions	Describe the current groundwater quality and quantity conditions, including hydrogeological properties and potentiometric surfaces, as described in the most recent annual groundwater monitoring reports;	Updated Conditions	Section 11.6.6.2 2
11.6.3	Existing Conditions	Describe regional geological conditions, including any faulting or fracturing observed in the study area;	Background Conditions Updated Conditions	Section 11.6.6.1 Section 11.6.6.2
11.6.3	Existing Conditions	Describe seasonal trends in groundwater levels;	Updated Conditions	Section 11.6.6.2
11.6.3	Existing Conditions	Describe potential changes in baseflows to surface water features;	Updated Conditions	Section 11.6.6.2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.6.3	Existing Conditions	Describe potential possible groundwater-surface water interactions;	Updated Conditions	Section 11.6.6.2
11.6.3	Existing Conditions	Describe water quality relative to BC Water Quality Guidelines;	Background Conditions	Section 11.6.6.1
11.6.3	Existing Conditions	Describe available Indigenous or local knowledge related to groundwater;	Indigenous Perspective on Existing Conditions	Section 11.6.6.3
11.6.3	Existing Conditions	Describe how trends in climate change may be a contributing factor to the current state and trend of groundwater, as applicable; and	Updated Conditions	Section 11.6.6.2
11.6.3	Existing Conditions	Describe all areas with known groundwater impacts related to previous Red Chris mining activities as described in the Original Application, the cause(s) for these groundwater impacts and any mitigation activities planned or on-going.	Existing Conditions	Section 11.6.6
11.6.4	Potential Effects	The Amendment Application must describe potential effects to the Groundwater VC, identify interactions between the Project and these effects, and outline indicators that will be used to measure these effects, as described in Section 10.5. Potential effects related to groundwater will be presented for the Project, which are provided in Table 9-1.	Potential Effects	Section 11.6.8
11.6.4	Potential Effects	Groundwater Quality	Groundwater Quality Potential Effect 3 – Changes to Groundwater Quality	Section 11.6.8.2 Section 11.6.8.6
11.6.4	Potential Effects	• Groundwater Quantity Changes in groundwater quantity including flow and water table.	Groundwater Quantity Potential Effect 1 – Changes in Groundwater Quantity Including Flow and Water Table	Section 11.6.8.1 Section 11.6.8.4
11.6.5	Effects Management	The Amendment Application must describe effects management approaches for groundwater quality and quantity consistent with Section 10.6, as appropriate.	Effects Management	Section 11.6.9
11.6.6	Assessment of Positive Effects	The Amendment Application must describe positive effects to groundwater quality and quantity that are anticipated because of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessment and Characterization of Positive Effects	Section 11.6.10
11.6.7	Assessment of Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to groundwater quality and quantity that are anticipated because of the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8.	Assessment of Negative Residual Effects	Section 11.6.11
11.6.8	Characterization of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to groundwater quality and quantity, including the criteria outlined in Section 10.9.	Characterization of Negative Residual Effects	Section 11.6.12
11.6.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on groundwater quality and quantity following the methods outlined in Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.6.13
11.6.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Groundwater VC following the approach outlined in Section 10.11.	Follow-up Strategy	Section 11.6.14
11.7	**Fisheries and Aquatic Resources**			
11.7	Fisheries and Aquatic Resources	The approach will generally follow the methods outlined in Section 10.0, and VC-specific deviations will be described. The Amendment Application will identify which other VCs this VC is linked to and describe how the results of the assessment will be integrated into those of other VCs. This section of the Amendment Application will include the following headings and information.	Fisheries and Aquatic Resources Linkages with Other Valued Components	Section 11.7 Section 11.7.2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.7.1	Relevant Statutes, Policies, and Frameworks	Statutes, policies, and frameworks that may be relevant to fish and fish habitat under the EA process include: • Joint *Mines Act* and *Environmental Management Act* and regulations • BC *Environmental Assessment Act* and regulations • *Fisheries Act* • Species at Risk Act • *Water Sustainability Act* • Policy for Applying Measures to Offset Adverse Effects on Fish and Fish Habitat Under the *Fisheries Act* (December 2019). The following is a list of the relevant guidance documents and standards that may be used to characterize the aquatic resources conditions for the Project: • Applicant's Guide Supporting the Authorizations Concerning Fish and Fish Habitat Protection Regulations. • Measures to Protect Fish and Fish Habitat (dfompo.gc.ca). • *Fish-Stream Identification Guidebook.* Second edition, Version 2.1. Forest Practices Code of British Columbia, Victoria, B.C. Guidebook. • *Fish Habitat Assessment Procedures.* Watershed Restoration Technical Circular No. 8. Revised April 1996. Watershed Restoration Program. • Salmonid Field Protocols Handbook: Techniques for Assessing Status and Trends in Salmon and Trout Populations. • Water and Air Baseline Monitoring Guidance Document for Mine Proponents and Operators, 2016. • The British Columbia Field Sampling Manual. Reconnaissance (1:20 000) Fish and Fish Habitat Inventory Standards and Procedures, Version 2.0.	Relevant Statutes, Policies and Frameworks	Section 11.7.3
11.7.2	Assessment Boundaries	Assessment boundaries must be defined for the Fisheries and Aquatic Resources VC, including spatial, temporal, administrative, and technical boundaries. Section 10.2 introduces spatial boundaries to be used in the assessment for fisheries and aquatic resources. These boundaries are detailed in Table 10-1 and provided below.	Assessment Boundaries	Section 11.7.4
11.7.2	Assessment Boundaries	Local Assessment Area • Extent: The LAA will align with the Original Application study area and with groundwater and surface water quality and adjusted to better align with the catchment basin study area boundary. The LAA encompasses all drainages that could be directly affected by the Project, including Red Rock Canyon Creek, White Rock Canyon Creek, Coyote Creek, Lost Creek, Quarry Creek, and Northeast Arm Creek flowing northeast into the Klappan River, Trail Creek, and Kluea Todagin Creek (also known as Trench Creek), and an unnamed creek downstream of the Northeast Dam (also referred to as Northeast Arm Creek). Justification: Same as the study area for the Original Application to allow for comparison of predicted effects and aligns with the LAA for surface water quality and quantity. The LAA was selected in consideration of the Project footprint, the boundaries of the local drainage basins, and the spatial extent of the potential direct effects of the Project on fisheries and aquatic resources.	Spatial Boundaries	Section 11.7.4.1 Figure 11.7-2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.7.2	Assessment Boundaries	Regional Assessment Area • Extent: The RAA will generally align with the Original Application study area and with groundwater and surface water quality. The RAA encompasses adjacent drainage basins within the general region of the Project, including the Klappan River Catchment downstream to its confluence with the Stikine River, and the Iskut River Catchment upstream of the outlet of Kinaskan Lake. Justification: Similar to the study area for the Original Application (AMEC 2004) and aligns with the RAA for surface water quality and quantity. Sufficient area to provide Project-VC interactions and effects on a regional scale, including cumulative effects for the assessment of fisheries and aquatic resources. The RAA encompasses the maximum geographical extent in which potential effects on fisheries and aquatic resources are anticipated.	Spatial Boundaries	Section 11.7.4.1 Figure 11.7-2
11.7.3	Existing Conditions	As applicable, the Amendment Application must: Describe background conditions for fisheries and aquatic resources prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available.	Background Conditions	Section 11.7.6.1
11.7.3	Existing Conditions	Provide maps of the watershed(s) in the vicinity of the Project showing key watercourses and waterbodies.	Spatial Boundaries	Section 11.7.4.1 Figure 11.7-2
11.7.3	Existing Conditions	Provide a summary of fish and fish habitat and aquatic resources present during existing conditions (i.e., based on results from studies, annual monitoring programs, and additional studies conducted to support mine operations).	Updated Conditions	Section 11.7.6.2
11.7.3	Existing Conditions	Describe and provide maps of relevant fish habitats, including characteristics that directly and indirectly support fish in carrying out their life processes.	Updated Conditions	Section 11.7.6.2
11.7.3	Existing Conditions	Describe the historical occurrence, distribution, and conservation status of fish in watercourses and waterbodies.	Background Conditions	Section 11.7.6.1
11.7.3	Existing Conditions	Describe and provide a summary of Project-specific surveys and surveys completed, including methods used and how results helped characterize existing conditions.	Updated Conditions	Section 11.7.6.2
11.7.3	Existing Conditions	Describe fish species present and an estimate of the abundance of those species.	Updated Conditions	Section 11.7.6.2
11.7.3	Existing Conditions	Describe locations of important fish habitats and their relative importance.	Updated Conditions	Section 11.7.6.2
11.7.3	Existing Conditions	Describe habitat use, including seasonal variability in habitat use.	Updated Conditions	Section 11.7.6.2
11.7.3	Existing Conditions	Describe aquatic resources, including sediment quality, benthic invertebrate community, primary productivity, lake plankton community, tissue chemistry in periphyton, macrophytes, benthic invertebrates (creeks), and zooplankton (lakes).	Updated Conditions	Section 11.7.6.2
11.7.3	Existing Conditions	Provide reference to species of First Nation cultural use and value.	Tahltan Nation Perspective on Fisheries and Aquatic Resources	Section 11.7. 1
11.7.3	Existing Conditions	Describe available Indigenous or local knowledge related to fish, habitat, and aquatic resources.	Tahltan Nation Perspective on Fisheries and Aquatic Resources	Section 11.7.1
11.7.3	Existing Conditions	Describe fish health and tissue chemistry, specifically those that could relate to bioaccumulation concerns.	Updated Conditions	Section 11.7.6.2
11.7.3	Existing Conditions	Provide a summary of the monitoring activities completed to date and associated results.	Updated Conditions	Section 11.7.6.2
11.7.3	Existing Conditions	Describe how trends in climate change may be a contributing factor to the current state and trend of Fisheries and Aquatic Resources.	Updated Conditions	Section 11.7.6.2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix

11.7.4	Potential Effects	The Amendment Application must describe potential effects to the Fisheries and Aquatic Resources VC, identify interactions between the Project and these effects, and outline indicators that will be used to measure these effects, as described in Section 10.5. Potential effects related to fisheries and aquatic resources will be presented for the Project, which are provided in Table 9-1.
		• Fish
		  ○ Changes to fish health and/or fish productivity
		• Fish Habitat
		  ○ Change of fish habitat suitability and availability
			Potential Effects	Section 11.7.8

11.7.5	Effects Management	The Amendment Application must describe effects management approaches for fisheries and aquatic resources consistent with Section 10.6, as appropriate.	Effects Management	Section 11.7.9
11.7.6	Assessment of Positive Effects	The Amendment Application must describe positive effects to fisheries and aquatic resources that are anticipated because of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessment and Characterization of Positive Effects	Section 11.7.10
11.11.7	Assessment of Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to fisheries and aquatic resources that are anticipated because of the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8.	Assessment of Negative Effects	Section 11.7.11
11.7.8	Characterization of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to fisheries and aquatic resources, including the criteria outlined in Section 10.9.	Characterization of Negative Residual Effects	Section 11.7.12
11.7.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on fisheries and aquatic resources following the methods outlined in Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.7.13
11.7.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Fisheries and Aquatic Resources VC following the approach outlined in Section 10.11.	Characterization of Negative Residual Effects	Section 11.7.12
11.8	**Soil, Landscape, and Terrain**			
11.8	Soil, Landscape, and Terrain	The approach will generally follow the methods outlined in Section 10.0, and VC-specific deviations will be described. The Amendment Application will identify which other VCs this VC is linked to and describe how the results of the assessment will be integrated into those of other VCs. This section of the Amendment Application will include the following headings and information.	Soil, Landscape, and Terrain	Section 11.8
11.8.1	Relevant Statutes, Policies and Frameworks	Statutes, policies, and frameworks that may be relevant to the Soil, Landscape and Terrain VC include: • Contaminated Sites Regulation under the *Environmental Management Act*; • *Heritage Conservation Act;* Guidelines For Metal Leaching and Acid Rock Drainage at Mine Sites in British Columbia; • Policy for Metal Leaching and Acid Rock Drainage at Mine sites in British Columbia; • *Agricultural Land Commission Act* and Agricultural Land Reserve regulations; and, Forest Range and Practices Act.	Relevant Statutes, Policies, and Guidelines	Section 11.8.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.8.2	Assessment Boundaries	Assessment boundaries must be defined for the Soil, Landscape, and Terrain VC, including spatial, temporal, administrative, and technical boundaries. Section 10.2 introduces the spatial boundaries for soil, landscape, and terrain that are to be used in the assessment. These boundaries are detailed in Table 10 1 and provided below. Local Assessment Area • Extent: The Local Study Area for the Original Application (AMEC 2004) was not explicitly defined but was described as encompassing all proposed infrastructure of the originally approved mine. For the Project, the LAA will be based on a 500 m buffer around the existing mine and a 1 kilometre (km) buffer proposed surface disturbances of all Project activities, with local extensions beyond 1 km where there is potential for downslope environments to be affected specifically, southeast of the proposed block caving area to include the Kluea Lake Landslide Complex and northwest of the block caving area to include a nearby gullied drainage. • Justification: The LAA encompasses the area in which natural (pre-existing) terrain hazards could directly affect Project activities (“effects of the environment on the Project”), and where Project activities could directly affect soil, landscape, and terrain, including the Kluea Lake Landslide Complex. This aligns with the Vegetation and Terrestrial Ecosystems and Wildlife and Wildlife Habitat VCs, although it does extend beyond them (due to potential for farther-reaching instability).	Spatial Boundaries	Section 11.8.4.1 Figure 11.8-2
11.8.2	Assessment Boundaries	Regional Assessment Area • Extent: The RAA will align with the Original Application (AMEC 2004) regional study area except for the addition of an area around the Kluea Lake Landslide Complex in the southeast of the RAA. Justification: The RAA includes any processes that could indirectly affect, or be affected by mine infrastructure and activities, such as through consequence cascades.	Spatial Boundaries	Section 11.8.4.1 Figure 11.8-2
11.8.2	Assessment Boundaries	The Amendment Application must: • Describe background conditions for soil, landscape, and terrain prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available; • Describe general information about existing physiography; • Provide soil map units and data (soil series distribution and extent); • Describe soil quality within the boundary of the existing disturbance, the LAA, and the RAA; where data is available; • Provide maps and data for soil erosion potential; • Characterize topsoil and subsoil for suitability as growth media for reclamation; and • Describe available Indigenous or local knowledge related to soil, landscapes, and terrain.	Existing Conditions Tahltan Perspective on Soil, Landscape and Terrain	Section 11.8.6 Section 11.8.1

11.8.4	Potential Effects	The Amendment Application must describe potential effects to the Soil, Landscape, and Terrain VC, identify interactions between the Project and these effects, and outline indicators that will be used to measure these effects, as described in Section 10.5. Potential effects related to soil, landscape, and terrain will be presented for the Project, which are provided in Table 9-1.
		• Soil Quality
		  ○ Changes to soil quality.
		• Soil Quantity
		  ○ Soil loss and/or removal.
		• Terrain
		  ○ Changes to terrain processes
		• Landscape Features
		Change in landscape features
			Potential Effects	Section 11.8.8

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.8.5	Effects Management	The Amendment Application must describe effects management approaches for soil, landscape, and terrain consistent with Section 10.6, as appropriate.	Effects Management Uncertainty and Risk	Section 11.8.9 Section 11.8.12.3
11.8.6	Assessment of Positive Effects	The Amendment Application must describe positive effects to the Soil, Landscape, and Terrain VC that are anticipated as a result of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessment and Characterization of Positive Effects	Section 11.8.10
11.8.7	Assessment of Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to the Soil, Landscape, and Terrain VC that are anticipated because of the Project, and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8.	Assessment of Negative Effects	Section 11.8.11
11.8.8	Characterization of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to soil, landscape, and terrain, including the criteria outlined in Section 10.9.	Characterization of Negative Residual Effects	Section 11.8.12
11.8.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on soil, landscape, and terrain following the methods outlined Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.8.13
11.8.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Soil, Landscape, and Terrain VC following the approach outlined in Section 10.11.	Follow-up Strategy	Section 11.8.14
11.9	**Vegetation and Terrestrial Ecosystems**			
11.9	Vegetation and Terrestrial Ecosystems	The approach will generally follow the methods outlined in Section 10.0, and VC-specific deviations will be described. The Amendment Application will identify which other VCs this VC is linked to and describe how the results of the assessment will be integrated into those of other VCs. This section of the Amendment Application will include the following headings and information.	Vegetation and Terrestrial Ecosystems	Section 11.9
11.9.1	Relevant Statutes, Policies and Frameworks	Statutes, policies, and frameworks that may be relevant to the Vegetation and Terrestrial Ecosystems VC may include: • Forest and Range Practices Act; • Forest Act; • Water Sustainability Act and regulations; • BC Conservation Framework; • Species at Risk Act; and Federal Policy on Wetland Conservation.	Relevant Statutes, Policies and Frameworks	Section 11.9.3
11.9.2	Assessment Boundaries	The Amendment Application must define assessment boundaries for the Vegetation and Terrestrial Ecosystems VC, including spatial, temporal, and administrative and technical boundaries. Section 10.2 introduces the spatial boundaries to be used in the Effects Assessment of vegetation and terrestrial ecosystem. These boundaries are detailed in Table 10 1 and provided below. Local Assessment Area • Extent: The Local Study Area for the Original Application (AMEC 2004) was not explicitly defined but was described as encompassing all proposed infrastructure of the originally approved mine. For the Project, the LAA will be based on a 500 m around the existing mine and a 1 kilometre (km) buffer proposed surface disturbances of all Project activities, with local extensions beyond 1 km where there is potential for downslope environments to be affected specifically, southeast of the proposed block caving area to include the Kluea Lake Landslide Complex and northwest of the block caving area to include a nearby gullied drainage. • Justification: The LAA includes all areas within which Project activities could affect vegetation and terrestrial ecosystems.	Spatial Boundaries	Section 11.9.4.1 Figure 11.9-2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.9.2	Assessment Boundaries	Regional Assessment Area • Extent: The Original Application (AMEC 2004) Regional Study Area was defined as encompassing the area within which direct effects and secondary (i.e. indirect) effects of the Project may be found. It is bounded by: the northeast facing slope above the Klappan River; the northwest facing slope above the Unnamed Creek; the southeast facing slope above Kluea Lake; the northwest facing slope above Ealue Lake and Coyote Creek; and the Red Rock Canyon and White Rock Canyon uplands. Justification: The RAA will align with the Original Application (AMEC 2004) Regional Study Area to be able to compare changes from existing to Project case.	Spatial Boundaries	Section 11.9.4.1 Figure 11.9-2
11.9.3	Existing Conditions	The Amendment Application must: • Describe background conditions for vegetation and terrestrial ecosystems prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available. • Identify and classify terrestrial ecosystems in the LAA according to the biogeoclimatic ecosystem classification (BEC) system and the applicable field guide(s) to site identification, as well as the 2004 ecosystem mapping (AMEC 2004); • Provide updated ecosystem mapping (e.g., Terrestrial Ecosystem Mapping) to identify and classify terrestrial ecosystems using appropriate provincial standards; • Identify and classify wetland associations according to the classification system used in the Original Application (AMEC 2004), including the calcareous fen and alkaline wetlands identified in the Original Application (AMEC 2004); • Describe available Indigenous or local knowledge related to wetlands; and Describe how trends in climate change may be a contributing factor to the current state and trend of vegetation and terrestrial ecosystems.	Background Conditions Updated Conditions – Indigenous Perspective on Existing Conditions Trends in Climate Change	Section 11.9.6.1 Section 11.9.6.2.1 Section 11.9.6.4 Section 11.9.6.3

11.9.4	Potential Effects	The Amendment Application must describe potential effects to the Vegetation and Terrestrial Ecosystems VC, identify interactions between the Project and these effects and outline indicators that will be used to measure these effects, as described in Section 10.5. Potential effects related to vegetation and terrestrial ecosystems will be presented for the Project, which are provided in Table 9-1.
		• Wetland Function
		  ○ Loss or alteration of wetland ecosystems
		  ○ Effects to wetland function
		• Plant Species of Interest
		  ○ Changes in abundance of plant species of interest (rare plants, traditional use species, invasive plant species)
		• Plant Communities of Interest
		  ○ Loss or alteration of plant communities of interest
		  ○ Loss or alteration of ecosystems
		• Ecosystems
		Loss or alteration of ecosystems
			Potential Effects	Section 11.9.8

11.9.5	Effects Management	The Amendment Application must describe effects management approaches for vegetation and terrestrial ecosystems consistent with Section 10.6, as appropriate.	Effects Management	Section 11.9.9

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.9.6	Assessment of Positive Effects	The Amendment Application must describe positive effects to vegetation and terrestrial ecosystems that are anticipated as a result of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessment and Characterization of Positive Effects	Section 11.9.10
11.9.7	Assessment of Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to vegetation and terrestrial ecosystems that are anticipated as a result of the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8.	Assessment of Negative Residual Effects	Section 11.9.8
11.9.8	Characterization of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to vegetation and terrestrial ecosystems, including the criteria outlined in Section 10.9.	Assessment of Negative Residual Effects	Section 11.9.11
11.9.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on vegetation and terrestrial ecosystems following the methods outlined Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.9.12
11.9.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Vegetation and Terrestrial Ecosystems VC following the approach outlined in Section 10.11.	Follow-up Strategy	Section 11.9.13
11.10	**Wildlife and Wildlife Habitat**			
11.10	Wildlife and Wildlife Habitat	The approach will generally follow the methods outlined in Section 10.0, and VC-specific deviations will be described. The Amendment Application will identify which other VCs this VC is linked to and describe how the results of the assessment will be integrated into those of other VCs. This section of the Amendment Application will include the following headings and information.	Wildlife and Wildlife Habitat	Section 11.10
11.10.1	Relevant Statutes, Policies and Frameworks	Statutes, policies, and frameworks that may be relevant to the Wildlife and Wildlife Habitat VC include: • *Wildlife Act* (1996) and Wildlife Regulations (2022); • *Forest and Range Practices Act* (2002) and Government Actions Regulations (2021); • *Migratory Birds Convention Act* (1994) and Migratory Birds Regulations (2022); • *Species at Risk Act* (2002); • Procedures for Managing Identified Wildlife (B.C. Ministry of Water, Land, and Air Protection 2004); • Accounts and Measures for Managing Identified Wildlife (ENV 2006); • Health, Safety and Reclamation Code for Mines in British Columbia (Ministry of Energy, Mines and Low Carbon Innovation 2022); • Guidelines for Amphibian and Reptile Conservation during Road Building and Management Activities in British Columbia (ENV 2020); • Best Management Practices for Amphibian and Reptile Salvages in British Columbia (Ministry of Forests, Lands, Natural Resource operations and Rural Development 2016); • Best Management Practices for Bats in British Columbia (ENV 2022); • Guidelines for Raptor Conservation during Urban and Rural Land Development in British Columbia (Ministry of Forests, Lands, Natural Resource operations and Rural Development 2013); • Develop with Care Environmental Guidelines for Urban and Rural Development (Ministry of Forests, Lands, Natural Resource operations and Rural Development 2014); • A Compendium of Wildlife Guidelines for Industrial Development Projects in the North Area, British Columbia – Interim Guidance (Ministry of Forests, Lands, Natural Resource operations and Rural Development 2014); and, • Resource Inventory Standards – various and as required.	Relevant Statues, Policies and Frameworks	Section 11.10.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.10.2	Assessment Boundaries	Assessment boundaries must be defined for the Wildlife and Wildlife Habitat VC, including spatial, temporal, administrative, and technical boundaries. Section 10.2 introduces the spatial boundaries to be used in the assessment. These boundaries are detailed in Table 10 1 and provided below. Local Assessment Area • Extent: The Original Application (AMEC 2004) Local Study Area was defined as: "…generally corresponds with the "Todagin No Shooting Area", as designated by the Ministry of Water, Land, and Air Protection [WLAP] since 1975, but with extensions to the Ealue Lake Road in the north and to the Klappan River in the east, to fully enclose all proposed facilities and works associated with the proposed Project." • Justification: The LAA will align with the Original Application Local Study Area to be able to compare changes from existing to Project Case.	Spatial Boundaries	Section 11.10.4.1 Figure 11.10-2
11.10.2	Assessment Boundaries	Regional Assessment Area • Extent: The Original Application Regional Study Area was defined as "…essentially corresponds with the Todagin Wildlife Management Area…with an extension to the Burrage Creek drainage in the southwest to ensure coverage of all contiguous uplands potentially occupied by the local sheep population." o Regional Road Assessment Area is based on a 500 m buffer either side of the Stewart-Cassiar Provincial Highway (Highway 37/37A) from the Project to Stewart, B.C. Justification: The RAA will align with the Original Application (AMEC 2004) Regional Study Area to be able to compare changes from existing to Project Case. The RAA additionally includes the Regional Road Assessment Area.	Spatial Boundaries	Section 11.10.4.1 Figure 11.10-2
11.10.3	Existing Conditions	The Amendment Application must: • Describe background conditions for wildlife and wildlife habitat prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available; • Provide a summary of the monitoring activities completed to date and associated results, including trends for tracked metrics such as number and locations of wildlife-vehicle collisions, human-wildlife interactions, and incidents of nuisance wildlife and the temporal trends of monitored wildlife indicators; • Describe available Indigenous or local knowledge related to wildlife and wildlife habitat; and • Describe how trends in climate change may be a contributing factor to the current state and trend of wildlife and wildlife habitat.	Existing Conditions	Section 11.10.6
11.10.4	Potential Effects	The Amendment Application must describe potential effects to the Wildlife and Wildlife Habitat VC, identify interactions between the Project and these effects and outline indicators that will be used to measure these effects, as described in Section 10.5. Potential effects related to wildlife, and wildlife habitat, and their sub-components will be presented for the Project, which are provided in Table 9-1. • Loss or alteration of wildlife habitat (direct loss and indirect loss resulting from sensory disturbance) • Mortality Risk	Potential Effects	Section 11.10.8
11.10.5	Effects Management	The Amendment Application must describe effects management approaches for wildlife and wildlife habitat consistent with Section 10.6, as appropriate.	Effects Management Quantification: Wildlife and Wildlife Habitat	Section 11.10.9 Appendix 11.10-B

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.10.6	Assessment of Positive Effects	The Amendment Application must describe positive effects to wildlife and wildlife habitat that are anticipated because of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessment and Characterization of Positive Effects Quantification: Wildlife and Wildlife Habitat	Section 11.10.10 Appendix 11.10-B
11.10.7	Assessment of Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to wildlife and wildlife habitat that are anticipated because of the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8. The assessment of the Project construction, operation, closure and post-closure stages on wildlife and wildlife habitat will compare predicted effects not to original background conditions, but to permitted conditions, as the Project is an active mine and the LAA has been largely disturbed by past and present activities. In brief, the predicted effects from the Original Application (and subsequent amendments) will be evaluated to determine their relevancy to the changes proposed in the Amendment Application. To assess the changes to potential negative effects, the original approach will be followed to maintain consistency. The original predictions will be evaluated, where possible, using results of ongoing monitoring activities and tracked metrics. The potential effects relating to changes from permitted conditions due to Project activities during construction, operations, closure and post-closure will then be assessed to determine if the original predictions will change. Consistent with the Original Application (AMEC 2004), a quantitative assessment of habitat loss and alteration will be completed for moose, mountain goat, Stone's sheep and grizzly bear (i.e., based on updated habitat suitability models); for other subcomponents a qualitative assessment of habitat loss will be conducted. Changes in sensory disturbance, movement, increased hunting and wildlife-vehicle collisions, and potential for mortality and morbidity will all be primarily qualitatively assessed. The results of the assessment will be presented in the context of the four key questions used in the assessment of effects to wildlife and wildlife habitat in the Original Application (AMEC 2004) refer to Table 11 1.	Potential Effects Quantification: Wildlife and Wildlife Habitat	Section 11.10.8 Appendix 11.10-B
11.10.8	Characterization of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to wildlife and wildlife habitat, including the criteria outlined in Section 10.9.	Assessment of Negative Residual Effects	Section 11.10.11
11.10.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects to wildlife and wildlife habitat following the methods outlined Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.10.12
11.10.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Wildlife and Wildlife Habitat VC following the approach outlined in Section 10.11.	Follow-up Strategy	Section 11.10.13
11.11	**Employment and Economy**			
11.11	Employment and Economy	The approach will generally follow the methods outlined in Section 10.0, and VC-specific deviations will be described. The Amendment Application will identify which other VCs this VC is linked to and describe how the results of the effects assessment will be integrated into those of other VCs. This section of the Amendment Application will include the following headings and information.	Employment and Economy	Section 11.11

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.11.1	Relevant Statutes, Policies and Frameworks	Statutes, policies, and frameworks that may be relevant to the Employment and Economy VC include national, Provincial, regional and/or local economic development plans, strategies, and action plans. Relevant statutes, policies, and frameworks include: • BC Environmental Assessment Act; • Indian Act; • First Nation Education Act; • First Nation Jurisdiction over Education in British Columbia Act; • Health Authorities Act; • Child, Family and Community Service Act; • First Peoples' Heritage, Language and Culture Act; • Tahltan Nation – Consolidated Shared Prosperity Agreement (2020); • Impact Benefit Co-management Agreements (IBCA); • Clean Energy Business Fund Revenue Sharing Agreements (2013, 2014) • Government-to-Government Red Chris Mine Management Agreement (2017); • Sustainable Livelihoods Framework (DFID 1998); • BC Government and the First Nations Health Council (FNHC) Memorandum of Understanding (MOU) on Social Determinants of Health (2016) • Off-Reserve Indigenous Action Plan (2014a). • Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All (ILO 2015).	Relevant Statutes, Policies and Frameworks	Section 11.11.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.11.2	Assessment Boundaries	The Amendment Application must define assessment boundaries for the Employment and Economy VC, including spatial, temporal, administrative, and technical boundaries. Section 10.2 introduces the spatial boundaries to be used in the Effects Assessment for employment and economy. These boundaries are detailed in Table 10-1 and provided below. Local Assessment Area • Extent: The LAA • is the Tahltan territory and includes: o Tahltan communities of Dease Lake, Community of Iskut, and Telegraph Creek. o Regional District of Kitimat-Stikine within the Tahltan territory. o Zones of influence of the Project, including areas that may be affected by direct and indirect Project effects, such as air contaminants, noise, light and site visibility, effluents, and wastes. o Segments of Highway 37 within the Tahltan territory that connect to the mine access road. o 23 km mine access road that links to Highway 37. • Other than the Tahltan territory itself, the boundaries of the LAA do not align with the boundaries of any singular external jurisdictional area. • Justification: The Local Assessment Area (LAA) is comprised of a larger area than the Project Footprint within which all (or most) potential direct and indirect Project effects on employment and economy are expected to occur. The LAA was identified in consideration of the information provided by the TCG thus far. The current LAA comprises of the entirety of the Tahltan Territory, but NRCML and the TCG will continue discussions and how to also incorporate the Tahltan AOIs and the Tahltan Risk Assessment into the Socio-Economic VC LAA and RAA. • Extent: The RAA includes the Regional District of Kitimat-Stikine Areas D and F; the Stikine Region, Stikine LHA (516), and Telegraph Creek LHA (519) and the administrative boundaries of various government jurisdictions or agencies such as FNHA Northern Region and Northern Health. In some instances, Provincial data is used to provide context for the description of existing conditions in the LAA. • The RAA will also include those portions of Highway 37 beyond the LAA and specific workforce marshalling points for Red Chris that are Vancouver, Nanaimo, Kamloops, Kelowna, Prince George, Smithers, and Calgary. • Justification: The RAA includes the LAA and specific communities beyond the LAA that may experience Project- related effects associated the workforce and transportation.	Assessment Boundaries	Section 11.11.4 Figure 11.11-2
11.11.3	Existing Conditions	Where appropriate and possible, the Application must describe and either quantify or estimate: • Background conditions for employment and economy prior to the development of Red Chris using information presented in the Original Application (AMEC 2004), as available.	Background Conditions	Section 11.11.6.1
11.11.3	Existing Conditions	• The local and regional economy, including the main economic activities in the LAA and/or the RAA;	Updated Conditions	Section 11.11.6.
11.11.3	Existing Conditions	• Describe trends in labour force and employment statistics for the LAA and RAA;	Updated Conditions	Section 11.11.6.
11.11.3	Existing Conditions	• Describe skills requirements and training;	Updated Conditions	Section 11.11.6.
11.11.3	Existing Conditions	• Describe wage and income information tax revenues and government expenditures;	Updated Conditions	Section 11.11.6.
11.11.3	Existing Conditions	• Discuss trends and factors influencing cost of living (e.g., housing, food, goods, and services);	Updated Conditions	Section 11.11.6.
11.11.3	Existing Conditions	• Available secondary source information related to education and educational attainment, low-income earners, and poverty in general will be included, where available;	Updated Conditions	Section 11.11.6.
11.11.3	Existing Conditions	• Describe and quantify, where possible, land and resource valuations; and	Updated Conditions	Section 11.11.6.

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.11.3	Existing Conditions	• Describe available Indigenous knowledge related to employment and economy.	Updated Conditions	Section 11.11.6.
11.11.3	Existing Conditions	• As applicable, information will be sufficiently disaggregated and analyzed to support the analysis of potential effects to underrepresented groups. Where the available information presents a limitation on the ability to describe differential effects to diverse subgroups, this limitation will be articulated, and its implications for analysis described.	Other Considerations	Section 11.11.4.4

11.11.4	Potential Effects	The Amendment Application must describe potential effects to the Employment and Economy VC, identify interactions between the Project and these effects, and outline indicators that will be used to measure these effects, as described in Section 10.5. Potential effects related to employment and economy will be presented for the Project, which are provided in Table 9-1.
		• Employment:
		  ○ Changes to local employment and contracting opportunities
		  ○ Changes to labour income.
		• Economy:
		  ○ Changes to regional economy
			Potential Effects	Section 11.11.8

11.11.5	Effects Management	The Amendment Application must describe effects management approaches for employment and economy consistent with Section 10.6, as appropriate.	Effects Management	Section 11.11.9
11.11.6	Assessing Positive Effects	The Amendment Application must describe positive effects to employment and the economy that are anticipated because of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessing and Characterization of Positive Effects	Section 11.11.10
11.11.7	Assessing Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to employment and the economy that are anticipated because of the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8. Where appropriate, information regarding potential effects on the human environment will be presented by sex, age, and other community relevant identity factors to identify disproportionate residual effects for diverse subgroups.	Potential Effects to Economy Characterization of Negative Residual Effects	Section 11.11.8.3 Section 11.11.12
11.11.8	Characterization of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to employment and the economy, including the criteria outlined in Section 10.9.	Characterization of Negative Residual Effects	Section 11.11.12
11.11.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on the economy following the methods outlined section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.11.13
11.11.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Employment and Economy VC following the approach outlined in Section 10.11.	Follow-up Strategy	Section 11.11.14
11.12	**Infrastructure and Services**			
11.12	Infrastructure and Services	The approach will generally follow the methods outlined in Section 10.0, and VC-specific deviations will be described. The Amendment Application will identify which other VCs this VC is linked to and describe how the results of the Effects Assessment will be integrated into those of other VCs. This section of the Amendment Application will include the following headings and information.	Infrastructure and Services	Section 11.12

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.12.1	Relevant Statutes, Policies and Frameworks	Statutes, policies, and frameworks that may be relevant to the Infrastructure and Services VC include: • Declaration on the Rights of Indigenous Peoples Act; • Indian Act; • Transportation Act; • First Nation Education Act; • Royal Canadian Mounted Police Act; • Clean Energy Act; • Tahltan Nation – Consolidated Shared Prosperity Agreement (2020); • Impact Benefit Agreements (IBA); • Government-to-Government Red Chris Mine Management Agreement (2017); • Sustainable Livelihoods Framework (Department for International Development 1998); and • Service provider management/development plans and strategies;	Relevant Statutes, Policies and Frameworks	Section 11.12.3

11.12.2	Assessment Boundaries	The following spatial boundaries used for Effects Assessments must follow the direction set out in EAO's Effects Assessment Policy. Section 10.2 introduces the spatial boundaries to be used in the assessment for infrastructure and services. These boundaries are detailed in Table 10-1 and provided below.
		Local Assessment Area
		• Extent: The LAA is the Tahltan Territory and includes:
		  ○ Tahltan communities of Dease Lake, Community of Iskut, and Telegraph Creek.
		  ○ Regional District of Kitimat-Stikine within the Tahltan Territory.
		  ○ Zones of influence of the Project, including areas that may be affected by direct and indirect Project effects, such as air contaminants, noise, light and site visibility, effluents, and wastes.
		  ○ Segments of Highway 37 within the Tahltan Territory that connect to mine access road.
		  ○ 23 km Red Chris mine access road that links to Highway 37.
		• Other than the Tahltan Territory itself, the boundaries of the LAA do not align with the boundaries of any singular external jurisdictional area.
		• Justification: The LAA is comprised of a larger area than the Project Footprint within which all (or most) potential direct and indirect Project effects on employment and economy are expected to occur. The LAA was identified in collaboration with the TCG and is comprised of the entirety of the Tahltan Territory, save for the section that extends across the BC provincial border into the Yukon.
			Spatial Boundaries	Section 11.12.4.1
				Figure 11.12-2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.12.2	Assessment Boundaries	Regional Assessment Area • Extent: RAA includes the Regional District of Kitimat-Stikine Areas D and F; the Stikine Region, Stikine Local Health Authority (516), and Telegraph Creek Local Health Authority (519), and the administrative boundaries of various government jurisdictions or agencies such as FNHA Northern Region, Northern Health, and School District No. 087 (Stikine). In some instances, Provincial data is used to provide context for the description of existing conditions in the LAA. • The RAA will also include those portions of Highway 37 beyond the LAA and specific workforce marshalling points for Red Chris that are Vancouver, Nanaimo, Kamloops, Kelowna, Prince George, Smithers, and Calgary. • Justification: The RAA is used to provide context for the assessment of potential Project effects and includes the LAA and the broader administrative areas that overlap with the Tahltan Territory. The RAA also includes specific communities beyond the LAA that may experience Project-related effects associated the workforce and transportation.	Spatial Boundaries	Section 11.12.4.1 Figure 11.12-2
11.12.3	Existing Conditions	As applicable, the Amendment Application must: • Describe background conditions for infrastructure and services prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available.	Background Conditions	Section 11.12.6.1
11.12.3	Existing Conditions	• Describe relevant population demographics and trends (e.g., health status, community safety and crime, education and training). • Provide an overview of various identity factors to identify potentially vulnerable groups within the community. Where gaps in data exist, these limitations and their possible implications to the understanding of effects will be discussed. • Discuss the need for new or expanded services, facilities, or infrastructure arising out of Project-related activities and describe to the extent that they are the responsibility of the Certificate Holder.	Updated Conditions	Section 11.12.6.2
11.12.3	Existing Conditions	• Discuss the capacity and availability of the following: ○ Emergency response services	Background Conditions Updated Conditions	Section 11.12.6.1 Section 11.12.6.2
11.12.3	Existing Conditions	○ Healthcare facilities and services;	Background Conditions Updated Conditions	Section 11.12.6.1 Section 11.12.6.2
11.12.3	Existing Conditions	○ Care facilities and services (daycare, elderly care, etc.)	Background Conditions Updated Conditions	Section 11.12.6.1 Section 11.12.6.2
11.12.3	Existing Conditions	○ Domestic water supply;	Updated Conditions	Section 11.12.6.2
11.12.3	Existing Conditions	○ Sewage and water treatment facilities; ○ Solid waste collection services, landfills, and recycling facilities;	Updated Conditions	Section 11.12.6.2
11.12.3	Existing Conditions	○ Community recreational infrastructure, facilities, and services;	Background Conditions Updated Conditions	Section 11.12.6.1 Section 11.12.6.2
11.12.3	Existing Conditions	○ Educational services and facilities;	Updated Conditions	Section 11.12.6.2
11.12.3	Existing Conditions	○ Other relevant public or private sector infrastructure and services;	Updated Conditions	Section 11.12.6.2
11.12.3	Existing Conditions	○ The capacity of local and regional transportation infrastructure;	Background Conditions Updated Conditions	Section 11.12.6.1 Section 11.12.6.2

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.12.3	Existing Conditions	○ The capacity and condition of housing and accommodation; and	Background Conditions Updated Conditions	Section 11.12.6.1 Section 11.12.6.2
11.12.3	Existing Conditions	○ Available Indigenous or local knowledge related to infrastructure and services.	Other Considerations	Section 11.12.4.4
11.12.3	Existing Conditions	As applicable, information will be sufficiently disaggregated and analyzed to support the analysis of potential effects to underrepresented groups. Where the available information presents a limitation on the ability to describe differential effects to diverse subgroups, this limitation will be articulated, and its implications for analysis described.	Updated Conditions	Section 11.12.4.4
11.12.4	Potential Effects	The Amendment Application must describe potential effects to the Infrastructure and Services VC, identify interactions between the Project and these effects, and outline indicators that will be used to measure these effects, as described in Section 10.5. Potential effects related to infrastructure and services will be presented for the Project, which are provided in Table 9-1.	Potential Effects	Section 11.12.8
11.12.4	Potential Effects	• Housing and Accommodation ○ Changes to local housing and accommodation availability	Potential Effects	Section 11.12.8
11.12.4	Potential Effects	• Community Services and Infrastructure ○ Changes to demand on local supporting infrastructure and community services	Potential Effects	Section 11.12.8
11.12.4	Potential Effects	• Transportation Infrastructure and Traffic ○ Increased traffic along public roads	Potential Effects	Section 11.12.8
11.12.5	Effects Management	The Amendment Application must describe effects management approaches for infrastructure and services consistent with Section 10.6, as appropriate.	Effects Management	Section 11.12.9
11.12.6	Assessing Positive Effects	The Amendment Application must describe positive effects to social services and infrastructure that are anticipated as a result of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessment and Characterization of Positive Effects	Section 11.12.10
11.12.7	Assessing Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to social services and infrastructure that are anticipated as a result of the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8. Where appropriate, information regarding potential effects on the human environment will be presented by sex, age, and other community relevant identity factors to identify disproportionate residual effects for diverse subgroups.	Assessment of Negative Effects	Section 11.12.11
11.12.8	Characterization of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to social services and infrastructure, including the criteria outlined in Section 10.9.	Characterization of Negative Residual Effects	Section 11.12.12
11.12.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on social services and infrastructure following the methods outlined Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.12.13
11.12.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the social services and infrastructure VC following the approach outlined in Section 10.11.	Follow-up Strategy	Section 11.12.14
11.13	**Human Health**			

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.13	Human Health	The approach will generally follow the methods outlined in Section 10.0 and VC-specific deviations will be described. The Amendment Application will identify which other VCs this VC is linked to and describe how the results of the effects assessment will be integrated into those of other VCs. This section of the Amendment Application will include the following headings and information. The Human Health effects will be evaluated in each of the following two sub-components: Human Health and Community Well-Being. Separate sections of the Amendment Application will present each of these distinct sub-components.	Human Health	Section 11.13
11.13.1	Relevant Statutes, Policies and Frameworks	Statutes, policies, and frameworks that may be relevant to the Human Health VC include: • *Public Health Act* and regulations; • Contaminated Sites Regulation under the Environmental Management Act; • Drinking Water Protection Act; • Health Canada Guidance for Evaluating Human Health Impacts in Environmental Assessment: Human Health Risk Assessment; • The British Columbia Ministry of Health Guidance on Human Health Risk Assessment • Northern Health Guidance on Human Health Risk Assessment (September 2015); • BC Environmental Assessment Office Human and Community Well-Being Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments in BC, Version 1.0 (April 2020); • Sustainable Livelihoods Framework (Department for International Development 1998); and • Relevant statutes, policies, and frameworks for other biophysical and socio-economic VCs (e.g., the air quality, surface water, groundwater, noise, employment and economy, infrastructure and services, land and resource use, etc.)	Relevant Statutes, Policies and Frameworks	Section 11.13.1.4 Section 11.13.2.3
11.13.2	Assessment Boundaries	The Amendment Application must define assessment boundaries for the Human Health VC, including spatial, temporal, and administrative and technical boundaries. These boundaries will be informed by those used to support assessment of biophysical effects (e.g. air quality, water quality), as well as those of the Socio-Economic Baseline Study of existing condition, as appropriate. Section 10.2 introduces the spatial boundaries to be used in the assessment for the human health and community well-being sub-components. These boundaries are detailed in Table 10-1 and provided below.	Assessment Boundaries	Section 11.13.1.5 Section 11.13.2.4 Figure 11.13-2
11.13.2	Assessment Boundaries	Human Health Sub-Component Local Assessment Area • Human Health Sub-Component Extent: The LAA was selected to coincide with the air quality LAA, which is a 25 km by 25 km area that captures water quality nodes, fish sampling locations, most soil and vegetation sampling locations (i.e., except for reference), the process plant location in the southeast quadrant and includes the closest community to the Project, the Community of Iskut in the northwest quadrant. • Human Health Sub-Component Justification: The LAA was selected as it includes the surface water, soil and vegetation, fisheries and groundwater LAA, to include existing developments within the Project footprint, as well as surrounding areas that may be affected by the Project that provide important environmental, economic, social, cultural, and health context.	Assessment Boundaries	Section 11.13.1.5
11.13.2	Assessment Boundaries	Human Health Sub-Component Regional Assessment Area • Human Health Subcomponent Extent: The RAA was selected to include the air quality RAA (i.e., area is a 42 km by 47 km domain), the surface water RAA and groundwater RAA. • Human Health Sub-Component Justification: The RAA was established to provide the broadest regional context for the human health, air quality, surface water and groundwater effects and to understand the scale of potential Project-related effects within the broader region.	Assessment Boundaries	Section 11.13.1.5

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix

11.13.2	Assessment Boundaries	Community Well-Being Local Assessment Area
		• Community Well-Being Sub-Component Extent: The LAA is Tahltan Territory and includes:
		  ○ The communities of Iskut/Łuwe Chōn, Dease Lake/Tatl'ah, and Telegraph Creek/Tlēgōhīn
		  ○ Regional District of Kitimat-Stikine within the Tahltan Territory.
		  ○ Zones of influence of the Project, including areas that may be affected by direct and indirect Project effects, such as employment & economy, and infrastructure & services.
		  ○ Segments of Highway 37 within the Tahltan Territory that connect to the mine access road.
		• Other than the Tahltan Territory itself, the boundaries of the LAA do not align with the boundaries of any singular external jurisdictional area.
		• Community Well-Being Sub-Component Justification: The LAA is comprised of a larger area than the Project Footprint within which all (or most) potential direct and indirect Project effects on community wellbeing are expected to occur. The LAA was identified in collaboration with the TCG and is comprised of the entirety of the Tahltan Territory, save for the section that extends across the B.C. provincial border into the Yukon.
			Assessment Boundaries	Section 11.13.2.4

11.13.2	Assessment Boundaries	Community Well-Being Sub-Component Regional Assessment Area • Community Well-Being Subcomponent Extent: The RAA includes the Regional District of Kitimat-Stikine Areas D and F; the Stikine Region, Stikine LHA (516), and Telegraph Creek LHA (519) and the administrative boundaries of various government jurisdictions or agencies such as FNHA Northern Region and Northern Health and School District No. 087. In some instances, Provincial data is used to provide context for the description of existing conditions in the LAA. Community Well-Being Sub-Component Justification: The RAA includes the LAA and specific communities beyond the LAA that may experience Project-related effects associated with the workforce and transportation aligning with assessment on Employment & Economy and Infrastructure and Services.	Assessment Boundaries	Section 11.13.2.4

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.13.3	Existing Conditions	The Amendment Application must: • Include a description of background conditions for human health prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available. • Describe publicly available information related to burden of disease, death/birth rates, injuries, and mental health rates/status. Where limitations exist, they will be noted; information available from the Tahltan Survey completed as part of the Socio-Economic Baseline Study will also be used, as appropriate. • Provide information related to country foods, as contained within the Tahltan Survey as part of the Social Baseline Report. • Describe existing conditions identified for VCs linked to human health that contribute to population health, such as: o Air quality o Acoustics o Surface water o Groundwater o Soil quality o Quality and harvesting rates of country foods (including vegetation, fish, and wildlife).. • Describe existing conditions identified for VCs linked to community well-being that contribute to population health, such as: o Indigenous determinants of health; o Population demographics; o Economy, employment and income; o Education, skills, and training; o Housing; o Infrastructure and services; o Community/social cohesion (including consideration of existing Fly in Fly out (FIFO) rotational work schedules); o Individual, family, and community wellness (health related behaviours); o Personal security; and o Food security. • Describe available Indigenous or local knowledge related to health and well being, including traditional land use activities and resource stewardship. As applicable, information will be sufficiently disaggregated and analyzed to support the analysis of potential effects to underrepresented groups. Where the available information presents a limitation on the ability to describe differential effects to diverse subgroups, this limitation will be articulated, and its implications for analysis described.	Existing Conditions	Section 11.13.1.8 Section 11.13.2.6
11.13.4	Potential Effects	The Application must identify interactions between the Project and aspects of the biophysical and human environment that could lead to effects on human health. The Application must outline the exposure pathways and indicators that will be used to describe the potential effects to Human Health. As described in Section 8.5, potential effects will be defined through a consideration of potential changes in: • Community well-being and social determinants of health; and • Biophysical determinants of health.	Potential Effects	Section 11.13.1.9 Section 11.13.2.8

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.13.4	Potential Effects	In relation to community well-being and social determinants of health, the Amendment Application must: • Describe how input from Tahltan engagement related to effects on human and community well-being was incorporated into the Project; • Describe considerations relating to safety, and in particular the safety of Indigenous and non-Indigenous women and girls and gender-diverse people; • Describe community cohesion, including factors such as community engagement, support, and social networks; • Describe how human health and community well-being will be impacted, including but not necessarily limited to, as a result of the Fly in Fly out rotational work schedules; • Describe potential effects of increased Tahltan employment at the Project on community and family cohesion; and • Describe potential effects if the planned mitigations are not effective.	Potential Effects	Section 11.13.2.8
11.13.4	Potential Effects	In relation to biophysical determinants of health, the Amendment Application must: • Present a summary of biophysical exposure pathways and commentary, to the extent that it is known, whether exposure will be increasing or decreasing because of the Project; and Present a comparison of air quality and water quality predictions to applicable environmental criteria protective of human health for the current and Project conditions.	Potential Effects	Section 11.13.1.9
11.13.4	Potential Effects	Consideration of potential Project effects on Human Health (human health and community well-being sub-components) must include both biophysical and social determinants of health. The assessment must follow a Rapid Health Impact Assessment (HIA) approach focused on potential implications to human health specific to Project-related changes in activities and components. The Rapid HIA must: • Identify relevant exposure pathways and provide an evaluation, to the extent that it is known, of how Project activities could influence a range of potential health outcomes; and, • Review and evaluate available information on those VCs linked to human health to identify whether the residual effects, cumulative effects and proposed mitigation measures are sufficient for the protection of human health.	Potential Effects	Section 11.13.1.9
11.13.4	Potential Effects	As committed to in Table 2 of the Work Camp Amendment Assessment Report, NRCML is required to complete a Human Health Risk Assessment (HHRA) for the Project. For context, it is noted that a broader Red Chris Site-Wide HHRA and Detailed HIA process is on-going and is anticipated to be completed in parallel to the Amendment Application. In relation to the separate Site-Wide HHRA and Detailed HIA, the Amendment Application must: • Present an outline of the ongoing Site-Wide HHRA and Detailed HIA processes. The outline must describe the data inputs as well as outputs expected from the Site-Wide HHRA and detailed HIA, and timelines for the processes. • Describe the consultation that has been carried out, or will be carried out as part of the Detailed HIA and Site- Wide HHRA; and. • Articulate the limitations and uncertainty in the Human Health assessment considering that the output from the Site-Wide HHRA (which is an input to the Detailed HIA process) will not be available at the time the Amendment Application is submitted.	Follow-up Strategy	Section 11.13.1.15

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.13.4	Potential Effects	Before the conclusion of Application Review, NRCML must summarize the status of the Project component of the Site- Wide HHRA and Detailed HIA that has been completed at that time. The summary must contain, at a minimum, information gained collectively from the Site-Wide HHRA and Detailed HIA including: • A description of existing conditions; • A description of potential effects, including effects pathways; • A description of proposed mitigation measures; and, • A description of predicted residual effects on the Human Health VC.	Human Health Assessment Summary	Section 11.13.1.16
11.13.4	Potential Effects	Additionally, a summary including an analysis of differences between the findings of the Rapid HIA as presented in the Amendment Application and the available findings from the Project component of the Site-Wide HHRA and Detailed HIA must be provided before the conclusion of the Application Review.	Content under development and to be provided before the conclusion of the Application Review	Content under development and to be provided before the conclusion of the Application Review
11.13.5	Effects Management	The Amendment Application must describe effects management approaches for human health and community well-being consistent with Section 10.6, as appropriate.	Effects Management	Section 11.13.1.11 Section 11.13.2.9
11.13.6	Assessing Positive Effects	The Amendment Application must describe positive effects to human health that are anticipated as a result of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessment and Characterization of Positive Effects	Section 11.13.1.12 Section 11.13.2.10
11.13.7	Assessing Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to human health that are anticipated due to the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8. Where appropriate, information regarding potential effects on the human environment will be presented by sex, age, and other community relevant identity factors to identify disproportionate residual effects for diverse subgroups, where available.	Assessment of Negative Effects	Section 11.13.1.13 Section 11.13.2.11
11.13.8	Characterization of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to human health, including the criteria outlined in Section 10.9.	Characterization of Residual Effects for VCs Linked to Human Health Characterization of Negative Residual Effects	Section 11.13.1.14 Section 11.13.2.12
11.13.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on human health following the methods outlined Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment for VCs Linked to Human Health Cumulative Effects Assessment	Section 11.13.1.15 Section 11.13.2.13
11.13.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Human Health, and Community Health and Well-Being VC following the approach outlined in Section 10.11.	Follow-up Strategy	Section 11.13.1.16 Section 11.13.2.14

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.14	**Archaeological and Heritage Resources**			
11.14	Archaeological and Heritage Resources	The approach will generally follow the methods outlined in Section 10.0, and VC-specific deviations will be described. The Amendment Application will identify which other VCs this VC is linked to and describe how the results of the effects Assessment will be integrated into those of other VCs. This section of the Amendment Application will include the below headings and information.	Archaeological and Heritage Resources	Section 11.14
11.14.1	Relevant Statutes, Policies and Frameworks	Statutes, policies, and frameworks that may be relevant to the Archaeological and Heritage Resources VC include: • *Heritage Conservation Act;* • BC Archaeological Impact Assessment Guidelines; • Tahltan Archaeological Standards (Tahltan Heritage Resources Environmental Assessment Team 2022); and • Applicable First Nation heritage policies	Relevant Statutes, Policies and Frameworks	Section 11.14.3
11.14.2	Assessment Boundaries	The Amendment Application must define assessment boundaries for the Archaeological and Heritage Resources VC, including spatial, temporal, administrative, and technical boundaries. Section 10.2 introduces the spatial boundaries to be used in the assessment for archaeological and heritage resources. These boundaries are detailed in Table 10-1 and provided below. Local Assessment Area • Extent: LAA is based on a standard buffer with boundaries a minimum of 50 m outside of the Project Footprint. • Justification: Archaeological and heritage resources are constrained by their physical/spatial area; however, their boundaries may be discontinuous and not completely defined spatially horizontally or vertically. A 50 m buffer supports the protection of known and undocumented archaeological and heritage resources that may be inadvertently affected by the Project through a lack of site boundary definition.	Assessment Boundaries	Section 11.14.4 Figure 11.14-2
11.14.2	Assessment Boundaries	Regional Assessment Area • Extent: The RAA is based on the extent of the Tahltan traditional land use study area, which assesses a 25 km buffer to the PMA. Justification: This boundary supports the consideration of archaeological and heritage resources in the region to support the background context for the chapter. Background information captured in the chapter based on the selected RAA may include site type and site locations (patterns). This 25 km study area was determined as adequate to understand patterns of use and therefore, it was adopted for the Archaeology and Heritage Resources VC for consistency.	Assessment Boundaries	Section 11.14.4
11.14.3	Existing Conditions	The Amendment Application must: • Provide a description of background conditions for archaeological and heritage resources prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available. • Describe and provide archaeological studies completed in the LAA and RAA and sites found within the Project footprint. • Describe the archaeological potential in the Project area. • Describe heritage or historical sites identified in the Project area. • Describe available Indigenous or local knowledge related to archaeological and heritage resources. • Describe how other past and present projects and activities (historical context) in the LAA and RAA have potentially affected known and potential archaeological and heritage resources.	Existing Conditions	Section 11.14.6

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.14.4	Potential Effects	The Amendment Application must describe potential effects to the Archaeological and Heritage Resources VC, identify interactions between the Project and these effects, and outline indicators that will be used to measure these effects, as described in Section 10.5. Potential effects related to archaeological and heritage resources will be presented for the Project, which are provided in Table 9-1. Changes to sites of historical or archaeological importance.	Potential Effects	Section 11.14.8
11.14.5	Effects Management	The Amendment Application must describe effects management approaches for archaeological and heritage resources consistent with Section 10.6, as appropriate.	Effects Management	Section 11.14.9
11.14.6	Assessing Positive Effects	The Amendment Application must describe positive effects to archaeological and heritage resources that are anticipated as a result of the Project and its management approaches for associated effects, as described in Section 10.7.	Assessment and Characterization of Positive Effects	Section 11.14.10
11.14.7	Assessing Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to archaeological and heritage resources that are anticipated as a result of the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in Section 10.8.	Potential Effects	Section 11.14.8
11.14.8	Characterization of Residual Effects	The Amendment Application will provide a brief characterization of negative residual effects of the Project to archaeological and heritage resources, including the criteria outlined in Section 10.9.	Assessment of Negative Residual Effects	Section 11.14.11
11.14.9	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on archaeological and heritage resources following the methods outlined Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.14.12
11.14.10	Follow-up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Archaeological and Heritage Resources VC following the approach outlined in Section 10.11.	Follow-up Strategy	Section 11.14.13
11.15	**Culture**			
11.15.1	Tahltan Culture	The approach will generally follow the methods outlined in section 10.0, and VC-specific deviations will be described. The Amendment Application will identify which other VCs this VC is linked to and describe how the results of the assessment will be integrated into those of other VCs. This section of the Amendment Application will include the below headings and information	Culture	Section 11.15

11.15.2	Relevant Statutes, Policies, And Frameworks	Statutes, policies, and frameworks that may be relevant to the Tahltan Culture VC include First Nation community and land use plans that overlap the Project site, including:
		• Tahltan Declaration (1910);
		• Tahltan Resource Development Policy (1987);
		• Land use and stewardship plans and programs, such as:
		  ○ Tahltan Band Land Code (Tahltan Band Council 2017);
		  ○ Cassiar Iskut-Stikine Land and Resource Management Plan (B.C. Government 2000);
		  ○ The Klappan Plan (TCG and the Province of British Columbia 2017);
		  ○ Tahltan Guardian Program (Tahltan Stewardship Initiative 2023);
		  ○ Sustainable Livelihoods Framework (Department for International Development 1998); and,
		• A Report on Tahltan Land Use and Occupancy in the Vicinity of the Red Chris Mine Project (Jones et. al. 2021).
			Relevant Statutes, Policies and Frameworks	Section 11.15.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.15.3	Assessment Boundaries	The Amendment Application must define assessment boundaries for the Tahltan Culture VC, including spatial, temporal, and administrative and technical boundaries. Spatial boundaries associated with effects to current use of lands and resources for traditional purposes including access boundaries, areas that may include a ban over the discharge of firearms due to safety, and areas in which regulated harvesting of wildlife and fish may be negatively affected. Section 10.2 introduces the spatial boundaries to be used in the assessment for Tahltan culture. These boundaries are detailed in Table 10-1 and provided below. Local Assessment Area • Extent: includes the PMA, the local Tahltan communities closest to the Project (Iskut/Łuwe Chōn, Dease Lake/Tatl'ah, and Telegraph Creek/Tlēgōhīn) along the administrative community boundary. • Justification: This area was determined based on the location of Tahltan communities, as the non-Reserve communities where there are concentrations of Tahltan's residing, and the areas where organized or communal cultural activities are practiced.	Assessment Boundaries	Section 11.15.4 Figure 11.15-2
11.15.3	Assessment Boundaries	Regional Assessment Area • Extent: The RAA for this VC and associated subcomponents is defined by Tahltan Territory within B.C. • Justification: Section 9.2(a)of the Tahltan Impact Assessment Policy "…there is an inextricable relationship among Tahltan people, Tahltan's way of life, Tahltan Territory, lands, waters, and all resources and creatures within Tahltan Territory." Tahltan recognize that all things are interconnected and interrelated, so culture too, is connected to the broader Territory, people, animals, water, land, etc	Assessment Boundaries	Section 11.15.4
11.15.4	Existing Conditions	As applicable, the Amendment Application must: • Provide a description of background conditions for Tahltan culture prior to the development of the Mine using information presented in the Original Application (AMEC 2004), as available; • Describe the cultural history and identity in the Project area, including governance and stewardship systems, customs, beliefs, and values; • Describe language and intergenerational knowledge transfer; • Describe community and cultural cohesion; • Describe available Indigenous or local knowledge related to culture; • Describe traditional land use activities, including but not limited to hunting, fishing, harvesting, and enjoyment of the land. This is inclusive of available Tahltan knowledge related to land and resource use; • Describe available traditional or community knowledge related to use of the land and resources for traditional purposes in the Project area; and, • Identify of the role wildlife, fish, country foods, and acoustics in Tahltan culture. As applicable, information will be sufficiently disaggregated and analyzed to support the analysis of potential effects to underrepresented groups. Where the available information presents a limitation on the ability to describe differential effects to diverse subgroups, this limitation will be articulated, and its implications for analysis described.	Existing Conditions	Section 11.15.6

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
11.15.5	Potential Effects	The Amendment Application must describe potential effects to the Tahltan Culture subcomponent of the Culture VC, identify interactions between the Project and these effects, and outline indicators that will be used to measure these effects, as described in section 10.0. Potential effects related to Tahltan Culture will be presented for the Project, which are provided in Table 9-1. • Change in connection with the community and individual availability for cultural activities. Where information is available, identification of intersections of factors such as by gender, age, and other community relevant identity factors used to identify disproportionate residual effects for diverse subgroups will be included. Where gaps in data exist, limitations will be specified.	Potential Effects	Section 11.15.8
11.15.6	Effects Management	The Amendment Application must describe effects management approaches for Tahltan culture consistent with section 10.6, as appropriate.	Effects Management	Section 11.15.9
11.15.7	Assessing Positive Effects	The Amendment Application must describe positive effects to Tahltan Culture that are anticipated as a result of the Project and its management approaches for associated effects, as described in section 10.7.	Assessment and Characterization of Positive Effects	Section 11.15.10
11.15.8	Assessing Negative Effects	The Amendment Application must provide a detailed description of the methods used to assess negative effects to Tahltan Culture that are anticipated because of the Project and present the results of this assessment, after taking mitigation into account. Methods will be consistent with those presented in section 10.8. Where appropriate, information regarding potential effects on the human environment will be presented by sex, age, and other community relevant identity factors to identify disproportionate residual effects for diverse subgroups.	Assessment of Negative Effects	Section 11.15.11
11.15.9	Characterization Of Residual Effects	The Amendment Application must provide a brief characterization of negative residual effects of the Project to Tahltan Culture, including the criteria outlined in section 10.9.	Characterization of Negative Residual Effects	Section 11.15.12
11.15.10	Cumulative Effects	The Amendment Application must include an assessment of cumulative effects on Tahltan Culture following the methods outlined Section 10.10 and identify additional mitigation measures where relevant.	Cumulative Effects Assessment	Section 11.15.13
11.15.11	Follow-Up Strategy	The Amendment Application must describe proposed monitoring and follow-up programs applicable to the Tahltan Culture VC following the approach outlined in section 10.11.	Follow-up Strategy	Section 11.15.14
12.0	Greenhouse Gas Emissions	The Amendment Application must: Present an overview of the best available technologies / best environmental practices considered for Project implementation.	Greenhouse Gas Emission Estimates	Section 12.2

12.0	Greenhouse Gas Emissions	• Describe the following scenarios:
		  ○ Existing Open Pit Operations (representative of the last 3 years of open pit operation);
		  ○ Project Construction Stage– an overlapping period where underground operations increase but material from the open pit-run of mine stockpiles continues to be used in processing (expected 3 years of duration); and
		  ○ Block Cave Operations Stage (estimated at 10 years of operation).
			Existing Open Pit Operations
			Project Construction Stage
			Project Operations Stage
				Section 12.2.1
				Section 12.2.2
				Section 12.2.3

12.0	**Greenhouse Gas Emissions**			
12.0	Greenhouse Gas Emissions	• Describe the Project's main source(s) of GHG emissions by GHG type.	Greenhouse Gas Emission Estimates	Section 12.2
12.0	Greenhouse Gas Emissions	• Update the estimate of the annual GHG emissions by Project stage.	Existing Open Pit Operations Project Construction Stage Project Operations Stage	Section 12.2.1 Section 12.2.2 Section 12.2.3

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
12.0	Greenhouse Gas Emissions	• Describe measures identified to mitigate GHG emissions.	Mitigation Options	Section 12.4
12.0	Greenhouse Gas Emissions	• Describe the potential effects of the Project on the Province being able to meet its targets under the *Greenhouse Gas Reduction Targets Act*, now the *Climate Change Accountability Act*.	Potential Effect on Provincial Greenhouse Gas Reduction Targets	Section 12.5
12.0	Greenhouse Gas Emissions	The information requirements and effects assessment for GHG emissions will be scaled to the Project, based on estimated GHG emissions and the potential for effects on carbon sinks. Additional information may include:	Potential Effects on Carbon sinks	Section 12.3
12.0	Greenhouse Gas Emissions	Description of the GHG emissions intensity	Greenhouse Gas Emission Estimates	Section 12.2
12.0	Greenhouse Gas Emissions	Description of monitoring, follow-up, and reporting requirements to confirm findings from the Environmental Assessment	Mitigation Options	Section 12.4
12.0	Greenhouse Gas Emissions	Description of other relevant emissions targets, including those of local, federal, or First Nation governments and how the Project would affect those targets	Potential Effect on Provincial Greenhouse Gas Reduction Targets	Section 12.5
12.0	Greenhouse Gas Emissions	Other information requirements identified during Process Planning	Greenhouse Gas Emissions	Chapter 12.0
12.0	Greenhouse Gas Emissions	Where there is uncertainty in the GHG emissions identified, the source and level of uncertainty will be identified and discussed.	N/A	Uncertainties were not identified in the supporting documentation.
13.0	**Accidents and Malfunctions**			
13.0	Accidents and Malfunctions	The Amendment application must provide a risk-based approach for the assessment of Accidents and Malfunctions that could affect VCs and Indigenous interests identified for the Project. The Amendment Application must:	Accidents and Malfunctions	Section 13.0
13.0	Accidents and Malfunctions	Provide selectively referenced information regarding a catastrophic dam failure as previously presented publicly and with the Tahltan. *(Reassessment of this information is expected to be outside the scope of this amendment.)*	Current Mine Controls Tailings Impoundment Area Emergency Preparedness and Response	Section 13.4 Section 13.4.2
13.0	Accidents and Malfunctions	• Provide an overview of failure modes, and associated response plans, associated with existing activities attributed to the Mine, including the existing failures modes and associated response plans such as the potential for motor vehicle accidents related to transporting mine employees and / or concentrate hauling along the transportation corridor (including Highway 37).	Current Mine Controls Emergency and Spill Response	Section 13.4 Section 13.4.1
13.0	Accidents and Malfunctions	• Describe potential incidents that may occur in stages of the proposed Project, including: • o An explanation of how those potential incidents were identified, the circumstances under which the incidents could occur, and a summary of mitigation measures that are assumed to apply to potential incidents and would be considered in their risk ratings.	Method Identification of Failure Modes Associated with the Project	Section 13.3 Section 13.3.1

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
13.0	Accidents and Malfunctions	• Describe the methods for assessing the potential risk of each incident, as defined in the Original Application, including definitions for classifications of likelihood, consequence and risk, and identification of threshold for incidents that will be carried forward for detailed analysis. o Identify any incidents that will not be carried forward and provide a rationale for the decision. • For those incidents that will be carried forward the Amendment Application must: o Provide an assessment of the likelihood, frequency, and extent of each incident identified; and • Provide a high-level assessment of the consequence of each incident (consider potential environmental, economic, social, cultural, and health effects and effects to Indigenous interests).	Method Risk Assessment	Section 13.3 Section 13.3.3
13.0	Accidents and Malfunctions	• Provide detailed information on the potential effects of each incident carried forward, including: • Most likely and worst-case scenarios of the effects of incidents on VCs and Indigenous interests within spatial boundaries described for the assessment area; o Information from historical incidents from similar operations and conditions, where applicable; and • If applicable, the quantity and characteristics of the contaminants and other materials likely to be released into the environment from an incident.	Project Related Accidents and Malfunctions Credible Worst Case Scenarios	Section 13.5 Section 13.5.1.1 Section 13.5.2.1 Section 13.5.3.1 Section 13.5.4.1 Section 13.5.5.1
13.0	Accidents and Malfunctions	• Provide detailed information on proposed mitigation measures to reduce the likelihood and consequence to VCs and Indigenous interests for incidents carried forward, including: o Safety protocols and mitigation measures to reduce the likelihood of incidents; o Contingency and emergency response procedures, including communications, if such events do occur; • Monitoring, evaluation, and adaptive management system to identify, proactively avoid, and rectify malfunction and/or accident; and • Likelihood of mitigation being successful and the time lag for mitigation to become effective based on previous incidents of a similar nature.	Project Related Accidents and Malfunctions Mitigation Measures Risk Assessment	Section 13.5 Section 13.5.1.2, Section 13.5.2.2, Section 13.5.3.2, Section 13.5.4.2 Section 13.5.5.2 Section 13.5.1.3, Section 13.5.2.3, Section 13.5.3.3, Section 13.5.4.3 Section 13.5.5.3
13.0	Accidents and Malfunctions	Provide conclusions on the potential risks of the incidents carried forward.	Conclusions	Section 13.7
13.0	Accidents and Malfunctions	Provide available community perspectives on severity of consequences will be presented in the Amendment Application.	NRCML will continue to seek input through the Amendment Application review process	
13.0	Accidents and Malfunctions	Accidents and/or malfunctions that will be assessed within the Amendment Application are grouped according to failure mode, and include but are not limited to: • Uncontrolled ingress of water and solids into underground workings (i.e., mudrush);	Uncontrolled Ingress of Water and Solids	Section 13.5.1

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
13.0	Accidents and Malfunctions	• Airblasts affecting underground workings;	Underground Instability	Section 13.5.2
13.0	Accidents and Malfunctions	• Ground subsidence around the cave exceeding the assessed limits;	Surface Instability	Section 13.5.3
13.0	Accidents and Malfunctions	• Underground instability and failure (i.e. fall of ground);	Underground Instability	Section 13.5.2
13.0	Accidents and Malfunctions	• Prolonged power failure onsite potentially affecting underground dewatering and ventilation systems; and	Power Failure	Section 13.5.4
13.0	Accidents and Malfunctions	• Fires or explosions in the underground block cave.	Fires and Explosions	Section 13.5.5
13.0	Accidents and Malfunctions	• Motor vehicle accident at/off the Project site	Current Mine Controls Emergency and Spill Response	Section 13.4 Section 13.4.1
13.0	Accidents and Malfunctions	Hydrocarbon Spills	Current Mine Controls Emergency and Spill Response	Section 13.4 Section 13.4.1
14.0	**Effects of the Environment on the Project**			
14.0	Effects of the Environment on the Project	The Amendment Application must: • Describe the environmental factors deemed to have possible consequences on the Project, including but not necessarily limited to, consideration of natural hazards and influences of nature such as:	Scope	Section 14.1
14.0	Effects of the Environment on the Project	• Changes in average seasonal temperature	Risk Assessment	Section 14.5
14.0	Effects of the Environment on the Project	• Changes in average seasonal precipitation	Risk Assessment	Section 14.5
14.0	Effects of the Environment on the Project	• Extreme climate events (e.g., extreme heat, heat waves, extreme cold, high-intensity short duration precipitation); and	Environmental Factors and Climate Events	Section 14.5.1
14.0	Effects of the Environment on the Project	• Physical environment changes such as wildfire, drought, natural seismic events (i.e., earthquakes), flooding, windspeed, and landslides.	Environmental Factors and Climate Events	Section 14.5.1
14.0	Effects of the Environment on the Project	• Describe how climate change might increase the likelihood and severity of the above-mentioned environmental factors.	Risk Assessment	Section 14.5
14.0	Effects of the Environment on the Project	Describe changes or effects on the Project that may be caused by the above-mentioned environmental factors.	Risk Assessment	Section 14.5

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
14.0	Effects of the Environment on the Project	Provide the likelihood (based on future climate change projections) and consequence of the changes or effects to relevant VCs.	Climate Change Parameters Risk Assessment	Section 14.4 Section 14.5
14.0	Effects of the Environment on the Project	Provide practical mitigation measures, including design strategies, environmental contingency plans, and climate risk plans to avoid or minimize the likelihood and consequence of the negative effects of the environment on the Project.	Project Mitigation Measures	Section 14.6
14.0	Effects of the Environment on the Project	Provide a conclusion about the potential risk of an effect of the environment on the Project and to relevant VCs.	Conclusion	Section 14.7
14.0	Effects of the Environment on the Project	• Describe how climate change has been incorporated into Project design and planning over the lifetime of the Project and a description of the climate data and projections used.	Project Mitigation Measures	Section 14.6
15.0	**Summary of Biophysical Factors that Support Ecosystem Function**			
15.0	Summary of Biophysical Factors that Support Ecosystem Function	The Amendment Application must consider Project effects on biophysical factors that support ecosystem function based on the results of the VC assessments, including the cumulative effects assessments. The Amendment Application must: • Provide an overview of the current ecosystem function in the vicinity of the Project at a landscape-and watershed level; • Identify the key multi-VC biophysical factors that support ecosystem function that the Project effects may interact with; • Discuss how the VC assessments and CEAs considered effects on these biophysical factors; • Summarize the positive and negative effects, including adverse cumulative effects, on biophysical factors that support ecosystem function based on appropriate information from the VC assessments; • Identify proposed measures required to manage potential effects on biophysical factors that support ecosystem function; and • Describe predicted changes to ecosystem function as a result of the Project.	Overview of the Current Ecosystem Function Key Biophysical factors that Interact with the Project	Section 15.1 Section 15.2
15.1	Hyperlinks to Tahltan Requirements	• This section provides the hyperlinks between Tahltan requirements found in Section 4.0 and the requirements identified here.	Hyperlinks with Tahltan Requirements	Section 15.3
16.0	**Summary of Human Health and Community Well-Being**			
16.0	Summary of Human Health and Community Well-Being	The Amendment Application must: • Provide an overview of the current state of human health and community well-being in the Project area from both a local and First Nation perspective, where available.	Overview of Existing Conditions	Section 16.1
16.0	Summary of Human Health and Community Well-Being	• Summarize potential positive and negative effects including residual adverse cumulative effects of the Project on human and community well-being based on the results of the multi-VC assessments under social, economic, health, and culture and the assessment of effects to Indigenous interests.	Mitigation and Residual Effects	Section 16.2
16.0	Summary of Human Health and Community Well-Being	• Identify how the Project and its potential impacts interact differently with distinct human populations.	Mitigation and Residual Effects	Section 16.2
16.0	Summary of Human Health and Community Well-Being	• Identify if the Project interacts with other factors that support human and community well-being that were not specifically assessed as part of a VC.	Summary of Human Health and Community Well-being	Section 16.0

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
16.0	Summary of Human Health and Community Well-Being	• Identify key measures proposed to manage potential effects on human and community well-being.	Mitigation and Residual Effects	Section 16.2
16.0	Summary of Human Health and Community Well-Being	• Describe anticipated changes more generally to human and community well-being because of the Project.	Conclusions	Section 16.3
16.1	Hyperlinks to Tahltan Requirements	• This section provides the hyperlinks between Tahltan requirements found in section 4.0 and the requirements identified here	Hyperlinks to Tahltan Requirements	Section 16.4
17.0	Summary of Effects to Current and Future Generations	The Amendment Application must summarize the analysis and conclusions for environmental, economic, social, cultural, and health VCs and Indigenous interests that contribute to the Project's positive or negative effects on current and future generations.	Summary of Effects to Current and Future Generations	Section 17.0
17.0	**Summary of Effects to Current and Future Generations**			
17.0	Summary of Effects to Current and Future Generations	The Amendment Application must: • Describe how input from engagement related to effects on current and future generations was incorporated and how the Project has changed as a result;	Influence of Engagement and Feedback Relating to Current and Future Generations	Section 17.1
17.0	Summary of Effects to Current and Future Generations	• Demonstrate how strategic direction from the Province of B.C. regarding sustainable development was considered;	Project Alignment with Provincial Strategic Direction on Sustainable Development	Section 17.2
17.0	Summary of Effects to Current and Future Generations	• Provide mitigation measures proposed to distribute positive and negative effects more equitably over time (e.g., across generations);	Project Effects on Current and Future Generations	Section 17.4
17.0	Summary of Effects to Current and Future Generations	• Discuss the potential outcome that residual effects to VCs and Indigenous interests will have on both current and future generations;	Project Effects on Current and Future Generations	Section 17.4
17.0	Summary of Effects to Current and Future Generations	• Discuss the type(s) of economic growth that would be generated by the Project and how this growth would be distributed, both within the population and over time; and	Positive Effects and Enhancements	Section 17.4.2
17.0	Summary of Effects to Current and Future Generations	• Identify relevant regional or provincial growth strategies and describe how the Project is or is not aligned with them.	Project Alignment with Provincial and Regional Growth Strategies	Section 17.3
17.1	Hyperlinks to Tahltan Requirements	This section provides the hyperlinks between Tahltan requirements found in Section 4.0 and the requirements identified here.	Hyperlinks to Tahltan Requirements	Section 17.5
18.0	**References**			
18.0	References		Chapter 18	

AIR Section Number	AIR Section Title	AIR Information Requirement	Amendment Application Section Title	Amendment Application Section, Volume/Sub-Section and Relevant Appendix
19.0	**Appendices**			
19.1	Summary of Mitigation Measures	The Amendment Application will include a summary table of mitigations for potential Project effects by Project stage and indicate where the mitigation would be housed including NRCML's proposed environmental assessment level commitments and requirements associated with permitting authorizations. This table will be used by the EAO during issues resolution, in updating the Regulatory Coordination Plan to describe how issues are being addressed in the environmental assessment or could be further addressed in permitting, and in the development of the draft EAC including proposed conditions.	Appendix 19.1	
19.2	Requested Amendment for EAC #M05-02	The Amendment Application will provide a description of the Project and accompanying figures for the proposed EAC Amendment, including a list of changes to existing activities and components at the Mine.	Appendix 19.2	
19.3	Authorship	The Amendment Application will identify key personnel responsible for preparing the application including, their employers, qualifications, and the sections for which they were contributors. The Amendment Application will identify key information, reports and data used to support the development of the application and the associated contributing organization and relevant qualifications. The Amendment Application will demonstrate that a qualified individual has prepared the information, or studies provided. A qualified individual would include someone who, through education, experience, or knowledge relevant to a matter, may be relied on by the Certificate Holder to provide advice within his or her area of expertise. Knowledge relevant to a matter may include Indigenous and local knowledge.	Appendix 19.3 Appendix 18	
19.4	Reviews of Information	If there is any relevant information from the Technical Advisory Committee that have supported the development of the Amendment Application this information will be presented and summarized in tabular format. The table will document the reviewer, key dates and comments, and how the comments were addressed or used in the development of the Amendment Application.	Appendix 19.4	
19.5	Data Submissions to Provincial Databases	This appendix will include a list of the data that will be submitted to the Provincial databases.	Appendix 19.5	

Red Chris Block Cave Project - Production Phase

Application for an Amendment to Environmental Assessment Certificate #M05-02

Acronyms and Abbreviations

Submitted by:

Newcrest Red Chris Mining Limited

Document Number:

401-8311-EN-REP-0020-01

Prepared by:

SLR Consulting (Canada) Ltd.

December 13, 2024

Revision: 1

Revision Record

Revision No.	Revision Date	Revision Description
0	November 29, 2024	Issued for Submission
1	December 13, 2024	Updated to reflect the complete Amendment Application

Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
Δ	delta
<	less than
>	greater than
µg/L	micrograms per litre
µg/m^3	micrograms per cubic metre
2SLGBTQI+	two-spirit, lesbian, gay, bisexual, transgender, queer, intersex, and additional people who identify as part of sexual and gender diverse communities
AADT	annual average daily traffic
AAIR	Amendment Application Information Requirements
AANDC	Aboriginal Affairs and Northern Development Canada
AAQO	Ambient Air Quality Objective
AB	Alberta
ABA	acid-base accounting
ABE	Adult Basic Education
ABM	American Bullion Minerals Limited
AEMP	Aquatics Effects Monitoring Program
AET	actual evapotranspiration
AHSPA	*Archaeological and Historic Sites Protection Act*
AIA	Archaeological Impact Assessment
AIR	Application Information Requirements
Amendment Application	Application for an Amendment to Environmental Assessment Certificate #M05-02
AOA	Archaeological Overview Assessment

AOI	Area of Interest
AP	acid potential
AQMP	Air Quality Management Plan
AQO	Air Quality Objective
AR5	Fifth Assessment Report
AR6	Sixth Assessment Report
Arctos	Arctos Anthracite Project
ARD	acid rock drainage
Ardea	Ardea Biological Consulting Ltd.
ARI	average recurrence interval
ARU	autonomous recording units
AT	Alpine Tundra Zone
Background conditions	The period for which detailed records of environmental and social conditions are available and are specific to the Red Chris Porphyry Copper-Gold Mine, specifically from 1994-2005.
BAFA	Boreal Altai Fescue Alpine Zone
BC	British Columbia
BC CDC	British Columbia Conservation Data Centre
BC SQG	British Columbia Sediment Quality Guidelines
BCEAA	British Columbia *Environmental Assessment Act*
BCEW Subcommittee	Block Cave and Early Works Subcommittee
BCEHS	BC Emergency Health Services
BCI	Bray Curtis Index
BCIOM	British Columbia Input-Output Model
BEAST	Benthic Assessment of Sediment
BEC	biogeoclimatic ecosystem classification
BEC-CMA	Coastal Mountain-Heather Alpine Zone

BEV	battery-electric vehicles
BGC	BGC Engineering Inc.
Block Cave Project	Transition from open pit mining to underground mining using the Block Cave method, developed using a phased approach.
BMP	Best Management Practice
BS	British Standard
BWBS	Boreal White and Black Spruce Zone
BWBSdk	Boreal White and Black Spruce dry cool
BWBSdk1	Boreal White and Black Spruce dry cool -Stikine variant
CAAQS	Canadian Ambient Air Quality Standards
CABIN	Canadian Aquatic Biomonitoring Network
CAC	Community Advisory Committee
CAPMoN	Canadian Air and Precipitation Monitoring Network
CapEx	capital expenditures
CCME	Canadian Council of Ministers of the Environment
CDI	Community Development Institute
CEA	Cumulative Effects Assessment
CEPA	*Canadian Environmental Protection Act*
CFP	Chance Find Procedure
CH_4	methane
CHMP	Cultural Heritage Management Plan
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
Closure Study	closure alternative study
cm	centimetre
cm^2	square centimetre
CMA	census metropolitan area

CMHC	Canadian Housing & Mortgage Corporation
CMIP5	Coupled Model Intercomparison Project Phase 5
CMP	Cave Management Plan
CMT	Culturally Modified Tree
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CO_2 eq/year	carbon dioxide equivalent/year
Consent Agreement	*Declaration Act* Consent Decision-Making Agreement for Red Chris Porphyry Copper-Gold Mine Project between the Tahltan Central Government and the province of British Columbia, entered into agreement on November 1, 2023.
COPD	chronic obstructive pulmonary disorder
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CPI	Consumer Price Index
cps	cycles per second
CRA	Canadian Revenue Agency
CSR	Contaminated Sites Regulation
CULRTP	current use of lands and resources for traditional purposes
CWB	Canadian Well-Being Index
CWH	Coastal Western Hemlock Zone
d/s	downstream
dB	decibel
dB(A)	A-weighted sound level in decibels
dB(C)	C-weighted sound level in decibels
dB(Z) (also known as dB(L) or dBLin)	linear decibel
DDF	Depth-Duration-Frequency

DDN	Dah Dzāhge Nodesi̲de
DEI	diversity, equity, and inclusion
DFO	Fisheries and Oceans Canada
DGAC	dense-graded asphaltic concrete
DMT	dry metric tonne
DPM	diesel particulate matter
DSI	Dam Safety Inspection
dwt	deadweight tonnes
EA	Environmental Assessment
EAC	Environmental Assessment Certificate
EAO	Environmental Assessment Office
EOCP	Environmental operators certificate program
EAP	Employee Assistance Program
EC	Environment Canada
ECC	Ministry of Education and Child Care
ECCC	Environment and Climate Change Canada
EDD	East Diversion Ditch
EEM	environmental effects monitoring
EEMP	Environmental Effects Management Plan
EFN	environmental flow need
EMA	*Environmental Management Act*
EMLI	Ministry of Energy, Mines, and Low Carbon Innovation
EMP	Emergency Management Plan
EMS	Environmental Management System
EMZ	Early Mining Zone
EOC	Environmental Oversight Committee

EoR	Engineer of Record
EPA	Environmental Protection Agency
EPCM	engineering, procurement, and construction management
EPRP	Emergency Preparedness and Response Plan
EPT	Ephemeroptera, Plecoptera, Trichoptera
ESC	Erosion and Sediment Control
ESRP	Emergency and Spill Response plan
ESS	Emergency Support Services
ESSF	Engleman Spruce-Subalpine Fir Zone
ETV	Emergency Transport Vehicle
FAA	Footprint Assessment Area
FAI	first aid injury
FAL	freshwater aquatic life
FDMP	Fugitive Dust Management Plan
FHWA	United States Federal Highway Administration
FIFO	fly in/fly out
FMEA	Failure Mode Effects Assessment
FNCEBF	First Nations Clean Energy Business Fund
FNHA	First Nations Health Authority
FPCC	First Peoples Cultural Council
FRPA	*Forest and Range Practices Act*
FS	Feasibility Study
FSA	Foundation Skills Assessment
FSR	forest service road
ft^2	square feet
FTE	Full Time Equivalent

FY	fiscal year
g	gram
G	ground factor value
G2G	Government-to-Government
GBA+	gender based analysis plus
GCMP	Ground Control Management Plan
GDP	Gross Domestic Product
GEV	Generalized Extreme Value
GHG	greenhouse gas
GISTM	Global Industry Standard on Tailings Management
Gitanyow Nation	Gitanyow
Gitanyow Territory	Gitanyow Lax'yip
GLC	ground-level concentrations
GLLUP	Gitanyow Lax'yip Land Use Plan
GMR	Groundwater Monitoring Report
DGSI	Gonadosomatic Index
GWA	general waste area
GWh	gigawatt hour
GWP	Global Warming Potential
GWPR	Groundwater Protection Regulation
ha	hectare
HADD	Harmful Alteration Disruption and Destruction
HCA	*Heritage Conservation Act*
HCT	humidity cell test
HFC	hydrofluorocarbon
HHRA	Human Health Risk Assessment

HIA	Health Impact Assessment
Highway 37	Stewart-Cassiar Provincial Highway
HMSP	Health and Medical Services Plan
HQ	hazard quotient
hr	hour
HRGR	High Pressure Grinding Rolls
HSDA	Health Service Delivery Area
HSI	habitat suitability index
HSRC	Health, Safety and Reclamation Code for Mines in British Columbia
HSU	hydrostratigraphic unit
Hz	Hertz
IAA	*Canadian Impact Assessment Act*
IAAQO	interim provincial ambient air quality objectives
IATA	International Air Transport Association
IBA	Impact Benefit Agreement
IBC	Iskut Band Council
IBCA	Impact, Benefit, and Co-Management Agreement *Amended and Restated Impact, Benefit and Co-Management Agreement dated as of August 15, 2019, between Newcrest Red Chris Mining Limited, Tahltan Central Government, Tahltan Band and Iskut Band*
ICBC	Insurance Corporation of British Columbia
ICH	Interior Cedar-Hemlock Zone
ICLR	Institute of Catastrophic Loss Reduction
ICMM	International Council on Mining and Metals
IDF	intensity, duration, and frequency
IFC	Issue for Construction
IGT	Indigenous Guardians Toolkit

ILO	International Labour Organization
IMC	Imperial Metals Corporation
INAC	Indigenous and Northern Affairs Canada
IPCA	Indigenous Protected and Conserved Areas
IPCC	Intergovernmental Panel on Climate Change
IR	Indian Reserve
ISC	Indigenous Services Canada
ISET	Indigenous Skills and Employment Training
ISO	International Standards Organization
ITA	Industry Training Authority
ITRB	Independent Tailings Review Board
IVHS	Iskut Valley Health Services
IWMS	identified wildlife management strategy
JV	Joint Venture
KDMB	Klappan Decision-Making and Management Board
kg	kilogram
KLLC	Kluea Lake Landslide Complex
km	kilometre
km^2	square kilometre
km/h	kilometres per hour
koz	thousand ounces
KSM	Seabridge Gold's Kerr-Sulphurets-Mitchell Project
kt	thousand tonnes
kV	kilovolt
kW	kilowatt
kW/m^2	kilowatts per square metre

kWh	kilowatt hour
L	litre
L/s	litres per second
$L/s/km^2$	litres per second per square kilometre
LAA	Local Assessment Area
LBW	low birth weight
L_{eq}	energy equivalent sound level
LFN	low frequency noise/sound
LHA	Local Health Area
LHD	load-haul-dump
LiDAR	Light Detection and Ranging
LIM-AT	low-income measure after-tax
LNG	liquefied natural gas
L_N	exceedance noise level
LOM	Life Of Mine
LRMP	Land and Resource Management Plan
LSI	Liver Somatic Index
LTC	Lower Trail Creek
LTI	Lost Time Injury
LU	landscape unit
LUP	Land Use Plan
LWD	Large Woody Debris
M	Magnitude
m	metre
m/m	metre per metre
m/s	metres per second

m^2	square metre
m^3	cubic metre
m^3/d	cubic metres per day
m^3/s	cubic metres per second
m^3/year	cubic metres per year
MA	*Mines Act*
MAA	Multiple Account Analysis
mags	metres above ground surface
MAP	*Mines Act* Permit
masl	metres above sea level
MB	macroblock
MBCA	*Migratory Birds Convention Act*
mbgs	metres below ground surface
MBR	migratory birds' regulation
MCE	Maximum Credible Earthquake
MCFD	BC Ministry of Children and Family Development
MDMER	Metal and Diamond Mining Effluent Regulations
MECCS	British Columbia Ministry of Environment and Climate Change Strategy
MERP	Mine Emergency Response Plan
mg/kg dw	milligram per kilogram dry weight
mg/kg ww	milligram per kilogram wet weight
mg/L	milligrams per litre
mg/m^2	milligrams per square metre
MH	Mountain Hemlock Zone
MHS	Material Handling System
MIHR	Mining Industry Human Resources Council

Mine/the Mine (also Red Chris)	Red Chris Porphyry Copper-Gold Mine
ML	metal leaching
ML/ARD	metal leaching and acid rock drainage
mm	millimetre
Mm^3	million cubic metres
mm/s	millimetre per second
Mm^3/y	million cubic metres per year
MOF	Ministry of Forests
MOTI	Ministry of Transportation and Infrastructure
MOU	Memorandum of Understanding
MPRP	Five-Year Mine Plan and Reclamation Plan
mRL	metres reduced level
MS	Meteorological station
MT	million tonnes
MTI	medical treatment injury
Mtpa	million tonnes per annum
MW	megawatt
N_2O	nitrous oxide
NAG	non-acid generating
NAICS	North American Industry Classification System
NAR	Not at Risk
ND	North Dam
NED	Northeast Dam
NEDD	Northeast Diversion Ditch
NERD	North East Reclaim Dam

NESS	Nisga’a Elementary Secondary School
NEST	Nisga’a Employment , Skills, and Training
NEV	Northeast Valley
Newcrest	Newcrest Mining Limited
Newmont	Newmont Corporation
NF_3	nitrogen trifluoride
NFA (also Nisga’a Treaty)	*Nisga’a Final Agreement*
NFAA	*Nisga'a Final Agreement Act*
NFC	No Fish Captured
NGC	Nisga’a Growth Corporation
NHA	Northern Health Authority
NHL	National Hockey League
NHS	2011 National Household Survey
NHSDA	Northwest Health Service Delivery Area
NIA	Noise Impact Assessment
Nisga’a Treaty (also NFA)	Nisga’a Final Agreement
NLC	Northern Lights College
NLG	Nisga’a Lisims Government
NMDS	non-metric multidimensional scaling
NO_2	nitrogen dioxide
NOC	National Occupational Classification
NO_x	nitrogen oxides (shorthand for nitric oxide [NO] and nitrogen dioxide [NO_2])
NP	neutralization potential
NPV	Net Present Value

NRCML	Newcrest Red Chris Mining Limited
NRD	North Reclaim Dam
NRDD	North Reclaim Dam Discharge Area
NT	Nunavut
NTL	Northwest Transmission Line
NV	North Valley
NVHA	Nisga'a Valley Health Authority
NWDD	Northwest Diversion Ditch
NWT	Northwest Territories
O:E	Observed : Expected ratio
O_3	Ozone
OAC	Operations Accommodation Complex
OMS	Operation, Maintenance, and Surveillance
OpEx	operating expenditures
org/m^3	organisms per cubic metre
Original Application	Red Chris Copper-Gold Porphyry Project Environmental Assessment Certificate Application
PAC	Project Advisory Committee
PAG	potentially acid generating
PCC	Prairie Climate Centre
PCIC	Pacific Climate Impacts Consortium
PD	Project Description
PDO	property damage only
PET	potential evapotranspiration
PFC	perfluorocarbon
PFS	pre-feasibility study

PHR	Provincial Heritage Register
PHSA	Provincial Health Services Authority
PIEVC	Public Infrastructure Engineering Vulnerability Committee
PIN	Participating Indigenous Nation
PM	particulate matter
PM_{10}	respirable particulates of less than 10 microns
$PM_{2.5}$	respirable particulates of less than 2.5 microns
PMA	Permitted Mine Area
PMP	Probable Maximum Precipitation
POPC	parameters of potential concern
ppb	parts per billion
PPV	peak particle velocity
Project	Production Phase of the Block Cave Project
Province	Province of British Columbia
PSL	permissible sound level
PWTP	Potable Water Treatment Plant
PYLL	Potential Years of Life Lost
Q2	Annual maximum daily discharge with a return period of 2 years
Q10	Annual maximum daily discharge with a return period of 10 years
Q100	Annual maximum daily discharge with a return period of 100 years
Q200	Annual maximum daily discharge with a return period of 200 years
QA/QC	quality assurance/quality control
QSC	quartz sericite-carbonate
RAA	Regional Assessment Area
RAM	Risk Assessment Matrix
RBA	Resource Benefits Alliance

RCDC	Red Chris Development Company Ltd.
RCJV	Red Chris Joint Venture
RCMA	Red Chris Management Agreement
RCMC	Red Chris Monitoring Committee
RCMF	Red Chris Mine Footprint
RCMP	Royal Canadian Mounted Police
RCP	representative concentration pathway
RDBN	Regional District of Bulkley-Nechako
RDKS	Regional District of Kitimat-Stikine
Red Chris (also Mine/the Mine)	Red Chris Porphyry Copper-Gold Mine
RH	relative humidity
RIVPACS	River Invertebrate Prediction and Classification System
RMS	Risk Management Standard
RN	Registered Nurse
ROM	Run of Mine
RoW	right of way
RRAA	Regional Road Assessment Area
RRMCAA	regional road mortality corridor assessment area
RSA	Rock Storage Area
RWI	restricted work injury
SADT	summer average daily traffic
SAG	semi-autogenous grinding
SAOC	Site Asset Operations Centre
SAR	Species at Risk
SARA	*Species at Risk Act*

SAS	Stikine Airport Society
SBS	Sub-Boreal Spruce Zone
SCC	Sociocultural Committee
SCLUP	Social Closure and Land Use Plan
SD 92	School District 92
SD	South Dam
SDI	Shannon Diversity index
SDMA	Shared Decision-making Agreement
SEBR	Socio-Economic Baseline Report
SEI	Simpson's Evenness Index
SEL	sound exposure level
SEMP	Socio-economic and Monitoring Program
SF_6	sulphur hexafluoride
SHC	Stikine Health Centre
SIS	seepage interception system
SLR	SLR Consulting (Canada) Ltd.
SMU	soil map unit
SO_2	sulphur dioxide
SOMC	species of management concern
SOP	standard operation procedure
SPA	Shared Prosperity Agreement
SPL	sound pressure level
SPO	site performance objective
SPS	Social Performance Standard
SRD	South Reclaim Dam
SRDD	South Reclaim Diversion Ditch

SRHC	Stikine Regional Health Centre
SRMP	Sustainable Resource Management Plan
STP	Sewage Treatment Plant
Survey	Tahltan Nation Social Community Survey
SusEx	sustaining capital expenditures
SV	South Valley
SWB	Spruce Willow Birch Zone
SWBmk	Spruce Willow Birch moist cool
SWBmks	Spruce Willow Bfirch moist cool shrub
SWD	Small Woody Debris
SWE	snow water equivalent
SWMP	Solid Waste Management Plan
SWQ	Surface Water Quality
SW WB/WQM	Lorax Site-Wide Water Balance and Water Quality Model
SWWG	Stikine Wholistic Working Group
t	tonne
TAC	Technical Advisory Committee
TAS	Tahltan Ancestral Study
Tahltan	Tahltan Nation
Tahltan AIR	Tahltan Application Information Requirements
Tahltan Territory	The traditional territory of the Tahltan People, covering 93,500 square kilometres of northern British Columbia.
TARP	Trigger Action Response Plan *(formerly referred to as Trigger Response Plan or TRP)*
TBC	Tahltan Band Council
TCG	Tahltan Central Government
TCHC	Telegraph Creek Health Centre

TDS	total dissolved solids
TEM	Terrestrial Ecosystem Mapping
Terminal	Stewart Bulk Terminal
TGOA	Tahltan Guide Outfitters Association
TH	Tahltan Health
THID	Tahltan Housing and Infrastructure Development
THREAT	Tahltan Heritage, Resources and Environmental Assessment Team
TIA	Tailings Impoundment Area
TLUOS	Tahltan Land Use and Occupancy Study
TMP	Traffic Management Plan
TNCEMT	Tahltan Nation COVID-19 Emergency Management Team
TNDC	Tahltan Nation Development Corporation
TNHWG	Tahltan Nation Health Working Group
TNM	Traffic Noise Model
TOR	Terms of Reference
tpd	tonnes per day
Trust	Tahltan Heritage Trust
TRV	Trigger Response Value
TSI	Tahltan Stewardship Initiative
TSP	total suspended particulates
TSS	total suspended solids
TSKLH	Tsetsaut/Skii km Lax Ha Nation
TWILD	Tū'desē'cho Wholistic Indigenous Leadership Society
TWMA	Todagin Wildlife Management Area
TWS	Tailings and Water Stewardship
u/s	upstream

UAV	unmanned aerial vehicles
UBC	University of British Columbia
UCEPP	University and College Entrance Preparation Program
UG	underground
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
US or USA	United States or United States of America
USGS	United States Geological Survey
USW	United Steelworkers
UV	ultraviolet
UWR	ungulate winter range
VC	Valued Component
VFD	variable frequency drives
VOC	volatile organic compound
VOH	Virtual Open House
VR	vent raise
VWP	vibrating wire piezometer
WCGT	Westcoast Connector Gas Transmission Project
WDA	Workforce Development Agreement
WDD	West Diversion Ditch
WESTT	Workplace Essential Skills Trade Training
WHA	wildlife habitat area
WHMIS	Workplace Hazardous Materials Information System
WLAP	Ministry of Water, Land, and Air Protection
WMA	Wildlife Management Area
WMAC	Wildlife Management Advisory Committee
WMF	Waste Management Facility

WMP	wildlife management plan
WMU	Wilderness Management Units
WPA	*Water Protection Act*
WQG	Water Quality Guidelines
WSA	*Water Sustainability Act*
WSAP	Wilp Sustainability Assessment Process
WSN	Wilp Si'ayuukhl Nisga'a (Nisga'a Legislature)
WWNI	Wilp Wilxo'oskwhl Nisga'a Institute/Nisga'a House of Wisdom
WWTP	Wastewater Treatment Plant

Red Chris Block Cave Project - Production Phase

Application for an Amendment to Environmental Assessment Certificate #M05-02

Amendment Application Summary

Submitted by:

Newcrest Red Chris Mining Limited

Document Number:

401-8311-EN-REP-0020-01

Prepared by:

SLR Consulting (Canada) Ltd.

December 13, 2024

Revision: 1

Revision Record

Revision No.	Revision Date	Revision Description
0	November 29, 2024	Issued for Submission
1	December 13, 2024	Updated to include content in Sections F.1.1, F.1.10, F.1.11, F.1.12, F.1.13, F.1.14, and H

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Tables

Figures

Acronyms and Abbreviations

AAIR	Amendment Application Information Requirements
AIR	Application Information Requirements
Amendment Application	Application for an Amendment to Environmental Assessment Certificate #M05-02
AOI	Areas of Interest
BC	British Columbia
CO	carbon monoxide
Consent Agreement	*Declaration Act* Consent Decision-Making Agreement for Red Chris Porphyry Copper-Gold Mine Project between the Tahltan Central Government and the province of British Columbia, entered into agreement on November 1, 2023.
DPM	diesel particulate matter
EA	Environmental Assessment
EAC	Environmental Assessment Certificate
EAO	Environmental Assessment Office
EAP	Employee Assistance Program
EMA	Environmental Management Act
FTE	Full-time equivalent
FRWMF	Foreman Ridge Waste Management Facility
GDP	Gross Domestic Product
Gitanyow Nation	Gitanyow
GHC	Gitanyow Hereditary Chiefs Office
GHG	Greenhouse Gas
GLC	ground-level concentrations

HIA	Health Impact Assessment
Highway 37	Stewart-Cassiar Provincial Highway
HMSP	Health and Medical Services Plan
IBCA	Impact, Benefit, and Co-Management Agreement *Amended and Restated Impact, Benefit and Co-Management Agreement dated as of August 15, 2019, between Newmont Red Chris Mining Limited, Tahltan Central Government, Tahltan Band, and Iskut Band*
km	kilometre
LAA	Local Assessment Area
LOM	Life of Mine
masl	metres above sea level
MERP	Mine Emergency Response Plan
MHS	Material Handling System
Mine/the Mine [also Red Chris]	Red Chris Porphyry Copper-Gold Mine
MT	million tonnes
Mtpa	million tonnes per annum
NRCML	Newcrest Red Chris Mining Limited
Newmont	Newmont Corporation
NFA (also Nisga'a Treaty)	Nisga'a Final Agreement
NHA	Northern Health Authority
NO_2	nitrogen dioxide
NLG	Nisga'a Lisims Government
Nisga'a Treaty (also NFA)	Nisga'a Final Agreement

Original Application	Red Chris Copper-Gold Porphyry Project Environmental Assessment Certificate Application
PAG	potentially acid generating
PAH	polycyclic aromatic hydrocarbons
PM_{10}	respirable particulates of less than 10 microns
$PM_{2.5}$	respirable particulates of less than 2.5 microns
PMA	Permitted Mine Area
POPC	parameters of potential concern
Project	Production Phase of the Block Cave Project
RCDC	Red Chris Development Company Ltd
RDKS	Regional District of Kitimat-Stikine
RSA	Rock Storage Area
Red Chris [also Mine/the Mine]	Red Chris Porphyry Copper-Gold Mine
RAA	Regional Assessment Area
SO_2	sulphur dioxide
Tahltan AIR	Tahltan Application Information Requirements
Tahltan	Tahltan Nation
Tahltan Territory	The traditional territory of the Tahltan People, covering 93,500 square kilometres of northern British Columbia.
TAC	Technical Advisory Committee
TCG	Tahltan Central Government
TEM	Terrestrial Ecosystem Mapping
TIA	Tailings Impoundment Area
TNDC	Tahltan Nation Development Corporation

TSKLH	Tsetsaut/Skii km Lax Ha
TSP	total suspended particulates
WSAP	Wilp Sustainability Assessment Process
USA	United States of America
VC	Valued Component
VOC	volatile organic compound

A. Project Overview Summary

A.1 Overview of the Certificate Holder

Newcrest Red Chris Mining Limited (NRCML) is the operator of the Red Chris Porphyry Copper-Gold Mine (Red Chris [also Mine/the Mine]) and holds Environmental Assessment Certificate (EAC) #M05-02. Red Chris is owned 70% by NRCML and 30% by the Red Chris Development Company Ltd. (RCDC) through an unincorporated joint venture. NRCML is wholly owned by the Newmont Corporation (Newmont), headquartered in Denver, Colorado, United States of America (USA), while RCDC is owned by Imperial Metals Corporation of Vancouver.

The business and affairs of Newmont are managed by officers under the direction of the Board of Directors. Newmont's board provides a broad range of qualifications and interests, ensuring a diversity of viewpoints and expertise.

A.2 Red Chris Location

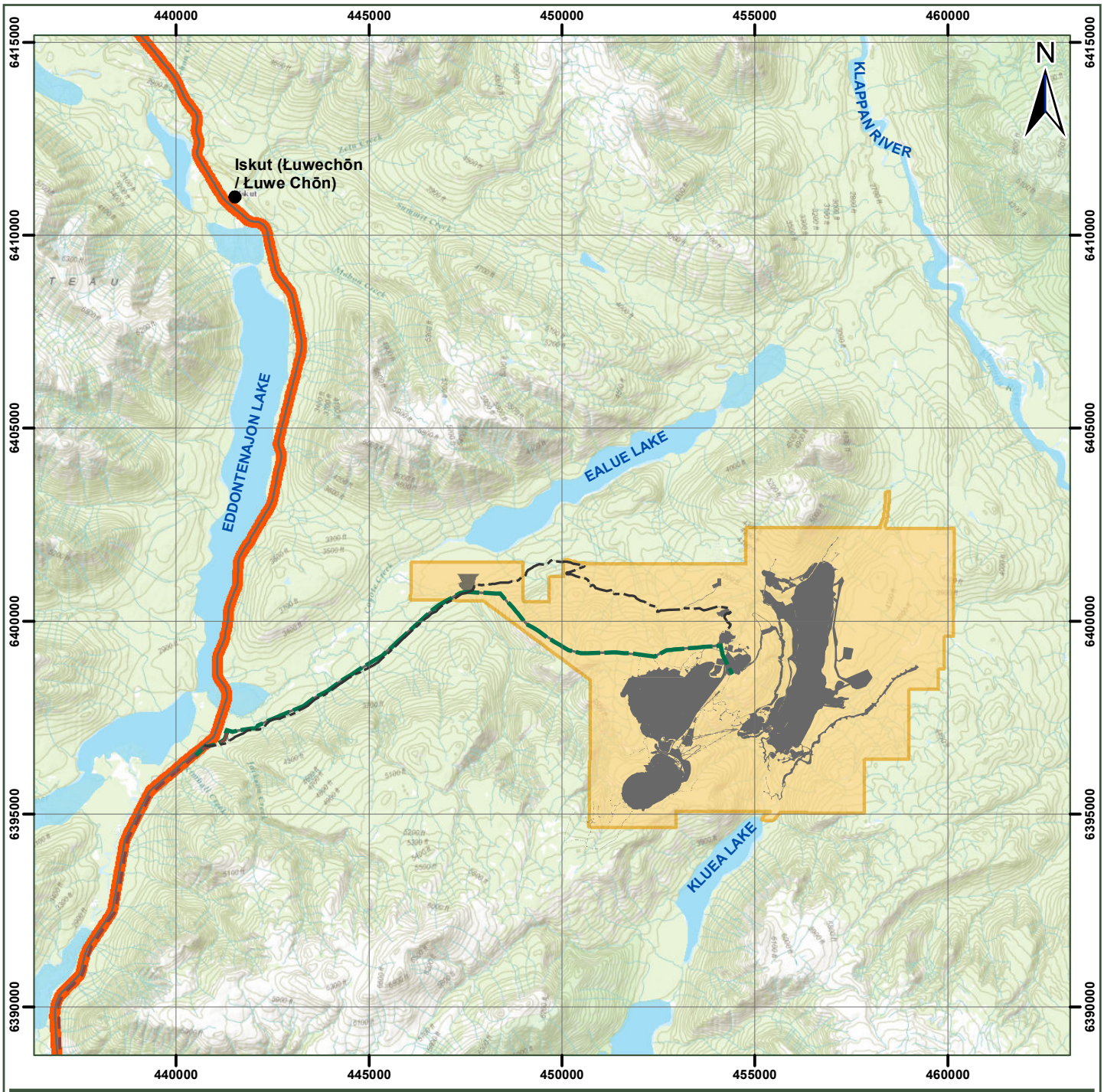
The Mine is located in northwest British Columbia (BC), entirely within the traditional territory of the Tahltan People, covering 93,500 square kilometres of northern British Columbia (Tahltan Territory). The Mine is approximately 275 kilometres (km) from the Yukon border, 427 km from the Northwest Territories border, 580 km from the Alberta border, and 167 km from the Alaska, USA, border.

Red Chris is situated on the Todagin Plateau, within the Klappan Range of the Skeena Mountains, and approximately 1,500 metres above sea level (masl). The Todagin Plateau is on the boundary of the Klappan and Iskut regional watersheds (Greenwood 2022). The region is geographically isolated and sparsely populated, with the nearest regional communities located south of Red Chris being Smithers (450 km), Terrace (368 km), and Stewart (200 km). Communities north of Red Chris include the community of Iskut, Dease Lake, and Telegraph Creek. Red Chris is located approximately 5 km north of the Todagin South Slope Provincial Park, 20 km west of the Spatsizi Plateau Wilderness Park, 15 km south of the Stikine River Provincial Park, 32 km west of Mount Edziza Provincial Park, and 36 km northeast of Kinaskan Lake Provincial Park. Ecologically and biologically sensitive areas, wildlife habitat areas, old growth management areas, ungulate winter ranges, wetlands, estuaries, habitats of federally or provincially listed species at risk, and other identified sensitive areas surrounding the Production Phase of the Block Cave Project (Project) are discussed within this Application for an Amendment to Environmental Assessment Certificate #M05-02 (Amendment Application).

The Stewart-Cassiar Provincial Highway (Highway 37), Highway 37A, and Highway 16 provide road access to the Mine. The primary transportation corridor in the region is Highway 37, which is approximately 12 km west of Red Chris and connects the Mine to the provincial transportation network via the Mine access road. Highway 37 is a two-lane paved road connecting Highway 16 at Kitwanga to the Yukon Territory and Alaska. Highway 16 crosses central BC from the Alberta border through Prince George to Prince Rupert, connecting several northern BC communities to service centres.

The transportation corridor (specifically Hwy 37 and Hwy37A) crosses through the Nass Area (as defined by the Nisga'a Final Agreement (Nisga'a Treaty [also NFA]) and traditional territories of the Gitanyow Nation and Tsetsaut Skii Km Lax Ha Nation.

The Mine's approximate centre coordinate is Latitude 57° 43' 57.8" North, and Longitude 129° 46' 3.5" West (refer to Figure A-1).



LEGEND:

- TOWN/COMMUNITY
- HIGHWAY
- REGIONAL POWER SUPPLY
- MINE ACCESS ROAD
- 287kV TRANSMISSION LINE
- PERMITTED MINE AREA
- EXISTING MINE
- TRANSPORTATION CORRIDOR
- WATERBODY OR WATERCOURSE

NOTES AND SOURCES:

1. THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY AND SHOULD NOT BE USED FOR NAVIGATION
2. BACKGROUND DATA FROM BC DATA CATALOGUE HTTPS://CATALOGUE.DATA.GOV.BC.CA/ ACCESSED SEPTEMBER 2023. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE – BRITISH COLUMBIA
3. PROJECT NTS MAP SHEET: 104H116
4. COORDINATES: -129.758121W, 57.727226N
5. PREPARED BY SLR

0 1 2 4 6 km

SCALE 1:150,000

DATA: NAD 1983 UTM Zone 9N

GRID: NAD1983 UTM ZONE 9N

Newmont™

REPORT TITLE

RED CHRIS BLOCK CAVE PROJECT - PRODUCTION PHASE APPLICATION FOR AN AMENDMENT TO EAC #M05-02

FIGURE TITLE:

LOCAL AREA OF RED CHRIS PORPHYRY COPPER GOLD MINE

FIGURE NO: **A-1**

DATE: November 29, 2024 PROJECT NO: 233.30000.00007

REV.	BY	CHK	DATE (M/DD/YYYY)	COMMENTS
0	AL	RA/JD	11/29/2024	FINAL ISSUE

Last Saved: November 29, 2024 2:10:46 PM by alewall

GIS PATH: G:_Projects\233\233_30000_RCBC\1_Maps\RPT\202402_ProjectOverview\233_30000_PO_A-1_LocalArea.mxd

A.3 Historical Context of the Red Chris Porphyry Copper-Gold Mine Site

The Tahltan Nation (Tahltan) have a long history of mining obsidian, especially from the Mount Edziza area. Gold was discovered in the Stikine River in 1861, and although this did not end up lasting, it did stir enough interest in the area to have Stikine territory defined and brought under the direction of the governor of the colony at the time.

Evidence of Tahltan resource extraction is visible across the Tahltan Territory, particularly in sites identified in the vicinity of the Mine. Simonsen and Diaz (2005) identify five sites where obsidian flakes were noted near the Mine, and evidence of obsidian mining has been documented across the Tahltan Territory (Fladmark 1985).

A discovery of gold on Thibert Creek, northwest of what is now Dease Lake, resulted in what is now referred to as the Cassiar Gold Rush of 1874. This resulted in an influx of people into the Tahltan Territory, and the establishment of the Hudson's Bay Company fort at Glenora (Albright 1984).

The Klondike Gold Rush in 1897 saw an additional influx of miners passing through Tahltan Territory on their way to Alaska in search of gold.

In 1968, The Great Plains Development Company of Canada, Ltd. began staking claims, marking more targeted exploration of the Mine area. Texasgulf Canada Ltd. acquired 60% of the Silver Standard and Great Plains Development Company of Canada, Ltd. claims in 1974, which were known as the Red and Chris claims. After a series of trades, takeovers, and acquisitions, American Bullion Minerals Ltd. held an 80% interest of Red Chris in 1994, with the remaining 20% interest held by Teck Corporation (AMEC 2004).

A.3.1 Historical Ownership

Red Chris has had multiple owners throughout its development and operating life.

RCDC owned the Mine through the initial EAC process, which ended in 2005. Imperial Metals Corporation acquired RCDC in 2007, maintaining RCDC as the operating entity of the Mine. NRCML acquired 70% ownership of the Mine in 2019, with RCDC retaining the remaining 30%. Newmont acquired Newcrest Mining Limited in November 2023, including NRCML. Through this corporate transaction, Newmont now owns 70% of the Mine. NRCML remains the operating entity of the Mine.

The evolution timeline of Red Chris, between 2005 and 2023, as relevant to the Project, is presented in Figure A-2.

Figure A-2: Evolution of the Red Chris Porphyry Copper-Gold Mine (2005–2023)

A.3.2 Regulatory History

For the purposes of this document, reference to the Red Chris Copper-Gold Porphyry Project Environmental Assessment Certificate Application (Original Application) indicates the EAC Application that was completed by AMEC in 2004 and reviewed provincially and federally, under a cooperative assessment agreement in 2005. The Original Application is based on the information collected between 1994 through to the September 2004 submission.

In July 2010, RCDC received an extension to EAC #M05-02 and applied for a joint *Mines Act* and an *Environmental Management Act* (EMA) Permit, with a mine life of 25 years, with a maximum ore production rate of 11 million tonnes per annum (Mtpa) or 30,000 tonnes per day (i.e., tpd) (RCDC 2010). Imperial was granted a *Mines Act* Permit (M-240) in May 2012 and construction of the Mine commenced. The *Mines Act* Permit outlines the boundary of the Red Chris Permitted Mine Area (PMA). Construction was substantially complete by the fall of 2014 and mining operations started in February 2015. RCDC received authorization to operate the process plant in mid-June 2015.

Red Chris currently operates under four main authorizations, listed below:

- **EAC #M05-02** issued under the BC *Environmental Assessment Act* 2002.
- ***Mines Act* Permit M-240** issued under the BC *Mines Act* and approved through a joint *Mines Act* and EMA Application.
- **Effluent Discharge Authorization PE-105017** issued under the EMA and approved through the joint *Mines Act* and EMA Application, was issued in 2013 to supersede a previous 2012 permit PE-105836. This authorization was amended in May 2017, June 2018, July 2022, and May 2024.
- **Air Discharge Authorization PA-106668** issued under the EMA and approved through the joint *Mines Act* and EMA Application; issued in 2013 and amended in 2017 and 2022.

A.4 Summary Description of the Change from Open Pit Mining to Block Cave Mining Method

The description of this change in mining method will include proposed changes from the Mine in the existing EAC.

NRCML mines a low-grade deposit at Red Chris that requires processing of a high volume of ore to be economically viable. NRCML proposes to change the mining method at Red Chris to an underground mining technique known as block cave mining that will enable access to additional and higher-grade ore at depths below the existing Open Pit shell. Studies conducted by NRCML have concluded that continuing to mine the deposit using the open pit mining method would not be economically sustainable at forecast copper prices.

Block cave mining was selected as the method to extract the resource beneath the existing Open Pit as it involves lower operating costs when compared to other methods, such as open pit mining. There are also some anticipated environmental benefits from the change in mining method.

The proposed change in mining method will allow for the economic recovery of additional ore beneath the pit, resulting in a longer operational life than currently forecasted for the Open Pit, providing employment, revenue, and other opportunities to the Tahltan, BC, and Canada.

The primary rationale for the Project includes:

- Maximized extraction of the current ore body while utilizing existing infrastructure and workforce where practical.
- Continued and increased production of copper, a critical mineral, to address global industrial demand needed to support the global energy transition to low-carbon societies. A block cave mine at Red Chris would be the largest of its kind in Canada and is estimated to increase Canada's annual copper production by over 15% annually.
- Continued and increased production of gold to meet global demand for industrial uses, financial investments, and jewellery.
- Continuation of economic contributions to local communities, the Tahltan, BC, and Canada through employment, commercial opportunities, discretionary social investment, Impact Benefit and Co-Management Agreement royalties, and government tax revenues.

Anticipated environmental benefits from the change in mining method include:

- Reducing the volume of waste rock to be stored at Red Chris and decreasing the amount of potentially acid generating (PAG) rock produced that needs to be managed as part of the closure plan.
- Reduction in the area disturbed by mining when comparing the block cave subsidence zone to the equivalent size of Open Pit and related permitting and legacy closure considerations.
- Reduction of surface activities and equipment along with the related consumption, including diesel usage, greenhouse gas (GHG) emissions, and explosive use, as well as dust generation.

A.5 Existing and Permitted Components and Activities

Red Chris has operated under the conditions in EAC #M05-02 and other environmental permits and approvals since 2015. This summary document presents an overview of the Amendment Application, facilitating the development of the Project.

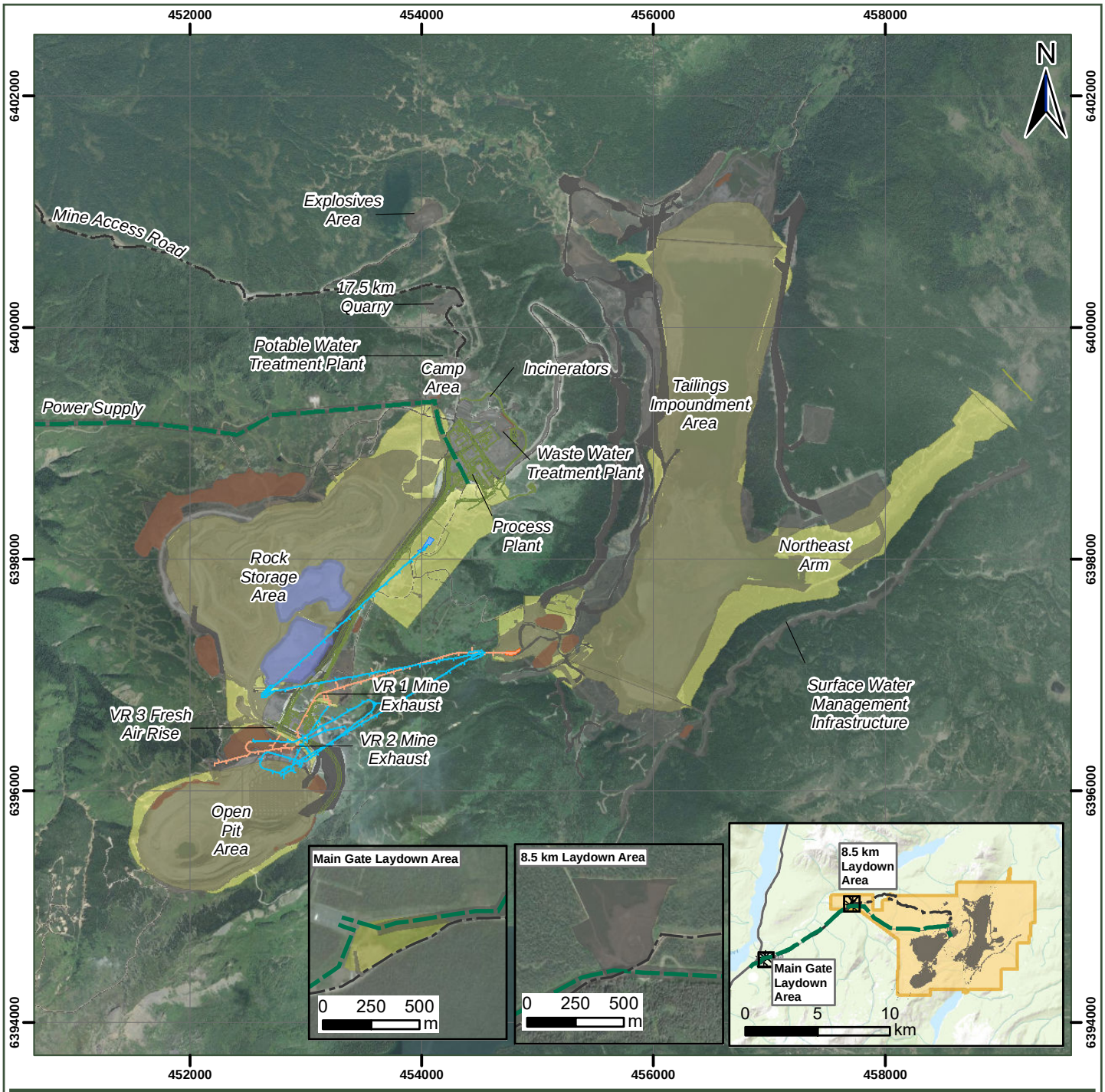
Surface disturbance at Red Chris totaled approximately 1,453 hectares (ha) as of December 31, 2023, all within the PMA. The main components of Red Chris—including existing and permitted components—are listed below (refer to Figure A-3).

- **Open Pit Area:** Conventional drill-blast-shovel-truck techniques are used to produce 10 to 11 Mtpa of ore fed to the process plant, in addition to low-grade ore and waste rock.
- **Rock Storage Area (RSA):** Location where low-grade ore and waste rock are stockpiled.
- **Process plant:** Includes ore processing components such as primary crushing, coarse ore stockpile, milling comminution, froth flotation, and concentrate filtering, storage, and loading.

- **Tailings and water management:** Includes the Tailings Impoundment Area (TIA), where flotation tailings are deposited and stored permanently. Surface water management infrastructure diverts run-on "non-contact" water around Mine facilities and to collect and manage "contact" water in accordance with regulatory requirements and applicable management plans, which are included within the footprint of the existing Mine.
- **Power supply:** Includes a powerline running adjacent to the Mine access road from the Highway 37 junction at the Tatogga Substation to the Red Chris substation located near the process plant. This power line provides electrical power from the regional grid to the Mine.
- **Supporting infrastructure and activities:** Includes the camp area and supporting facilities for worker accommodations, sewage treatment plant, potable water treatment plant, incinerator, and waste management facilities. The Mine access road is a is a 23 km road connecting Red Chris to Highway 37, with haul and service roads facilitating the movement of light vehicles on a road network within the Mine footprint. Additional supporting infrastructure includes, but is not limited to, an explosives facility, quarries, construction laydown areas, batch plant, warehouses, Mine dry, fuel stations, and offices.
- **Underground infrastructure:** Includes the conveyor box cut and decline, the Naghā Box Cut and decline, and various underground components including ventilation raises and lateral connections, underground support development, underground dewatering system, and underground electrical substations.

Regional infrastructure used by the Mine, not within the PMA, and which do not require additional permitting, includes:

- **Highway 37 and Highway 37A**: Used to transport materials to and from the Mine. The transportation corridor crosses through the Nass Area (as defined by the Nisga'a Treaty and traditional territories of the Gitanyow and Tsetsaut/Skii Km Lax Ha Nation.
- **Provincial power grid:** Supplies power to the Tatogga substation (BC Hydro 2023).
- **Stewart Bulk Terminal:** A port facility in the Port of Stewart, independently owned and operated by Stewart Bulk Terminals Ltd.



LEGEND:

EXISTING COMPONENTS

- MINE ACCESS ROAD
- 287kV TRANSMISSION LINE
- EXISTING INFRASTRUCTURE
- EXISTING MINE
- CONVEYOR DECLINE
- NAGHĀ DECLINE
- CONVEYOR PORTAL
- NAGHĀ PORTAL
- EXISTING SERVICE ROADS
- SOIL STOCKPILE
- ORE STOCKPILE

AS PERMITTED COMPONENTS

- AS PERMITTED COMPONENTS

NOTES AND SOURCES:

1. THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY AND SHOULD NOT BE USED FOR NAVIGATION
2. BACKGROUND DATA FROM BC DATA CATALOGUE HTTPS://CATALOGUE.DATA.GOV.BC.CA/ ACCESSED SEPTEMBER 2023. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE – BRITISH COLUMBIA
3. BACKGROUND IMAGERY - MAXAR 2023
4. COORDINATES: -129.758121W, 57.727226N
5. PROJECT NTS MAP SHEET: 104H116 COMPONENT DATA SUPPLIED BY NEWMONT, 05/2024
6. VR - VENTILATION RAISE
7. PREPARED BY SLR

0 300 600 1,200 1,800 m

SCALE 1:50,000

DATA: NAD 1983 UTM Zone 9N

GRID: NAD1983 UTM ZONE 9N

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REPORT TITLE

RED CHRIS BLOCK CAVE PROJECT - PRODUCTION PHASE APPLICATION FOR AN AMENDMENT TO EAC #M05-02

FIGURE TITLE:

EXISTING AND PERMITTED RED CHRIS COMPONENTS

FIGURE NO: **A-3**

DATE: November 29, 2024 PROJECT NO: 233.30000.00007

REV.	BY	CHK	DATE (M/DD/YYYY)	COMMENTS
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A.6 Description of the Project

The existing Mine plan is premised on a total Life of Mine (LOM) ore production of approximately 300 million tonnes (MT). With the Project, approximately 40% of this will be mined from the Open Pit, including the ore mined from 2015 to date. The remaining 60% is proposed to be produced underground using the block cave mining method. Underground ore production at 15 Mtpa will be approximately 12 years.

The Project will support continued operation of the Mine for approximately 12 years, by which time the existing TIA will reach its currently permitted capacity.

The subject of this Amendment Application is the Project, which is divided into four stages:

- **Construction:** Includes underground development (large chambers, ventilation raise #4, extraction and undercut layers), completing the installation of a Material Handling System (MHS) and other underground infrastructure, expansion of the process plant to raise throughput to a nominal 15 Mtpa, expansion of the electrical substation and accommodations camp, and pre-conditioning of the ore zone. Waste rock generated during the development of the underground will be placed in the RSA. Late stages of underground development will encounter ore that will be stockpiled for processing.
- **Operations:** The time period during which the mill will process ore at an approximate increased rate of 15 Mtpa; which will be supplied by ore from underground mining. Operations at this throughput will continue until the TIA embankment crest elevation reaches its permitted limit of 1,180 masl. The Project does not propose expansion of the TIA or the RSA beyond what is currently permitted.
- **Closure:** Consists of active Mine closure activities, including the dismantling and removal of block cave surface and underground infrastructure and reclamation of disturbed areas to promote long-term chemical and physical stability.
- **Post-Closure:** Post-closure will continue indefinitely following completion of the active closure measures and will consist mainly of water management (including, active water treatment) and environmental monitoring activities.

A.6.1 Project Components and Activities

Block caving is an efficient means of extracting ore at depth below the ground surface. The method involves undercutting the rock mass, creating an artificial void within an undercut level (Figure A-4). The undercutting of rock mass to generate the void is completed via drilling and blasting. The same technique is then used to break the rock, causing it to drop into and fill the undercut level.
The broken rock mass is directed in a controlled manner into a series of funnel-shaped drawbells created in the rock, transferring the material by gravity from the undercut level to the extraction level (Figure A-4). The rock is then removed by mobile mining equipment from the draw points to a centralized underground crusher, where the extracted rock is reduced in size before being transferred to surface. The efficiency of the method comes from the use of gravity and ground stresses rather than chemical and mechanical means to fragment the ore, and the use of gravity rather than equipment to move and collect ore.

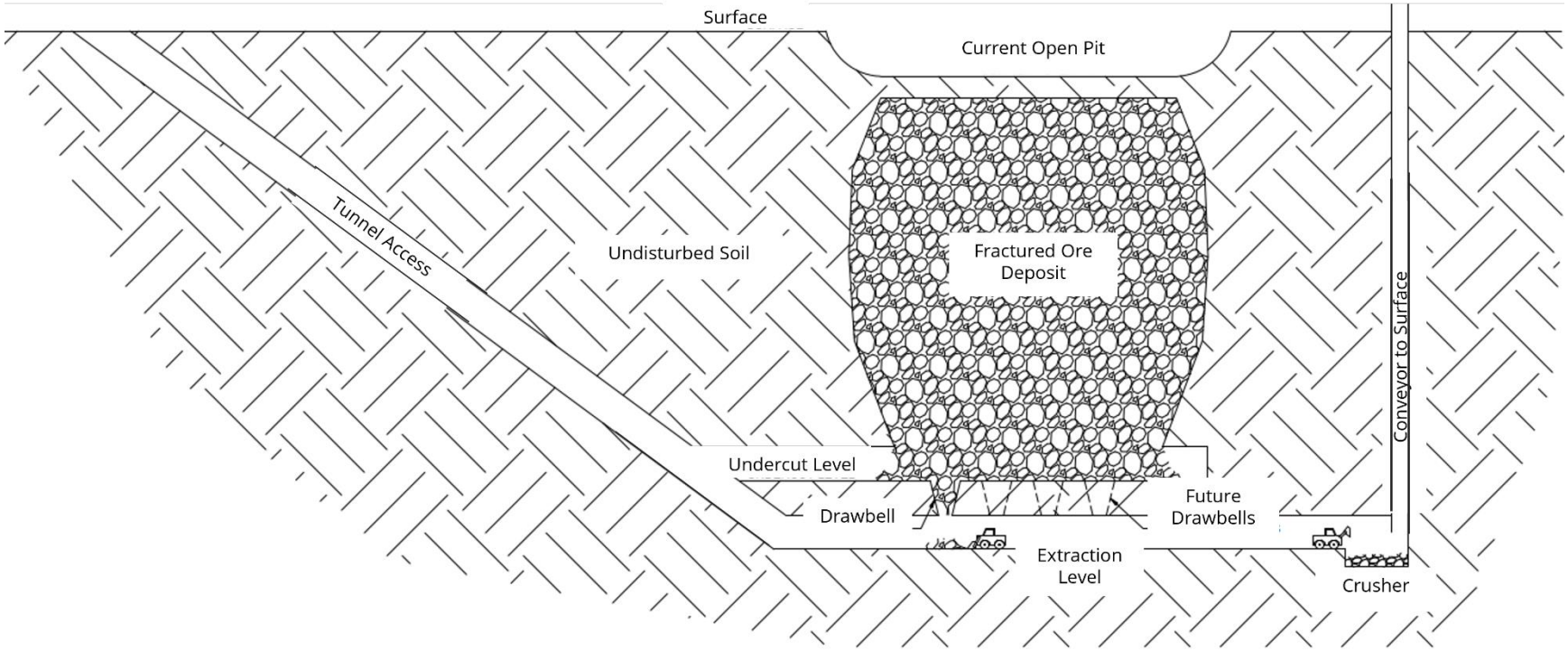
As the broken rock is removed from the extraction level, the rock mass above the void cannot support itself and falls into the open space or cave. As the fracturing and fragmenting of the rock in the void progresses upward through the rock mass, it eventually breaks through to the surface causing a subsidence crater, which in this case will be directly underneath the existing Open Pit. The active ground movement at surface caused by the subsidence is known as the Subsidence Zone. The area outside of the subsidence zone, the Stable Zone, is not anticipated to be affected by the subsidence formation.

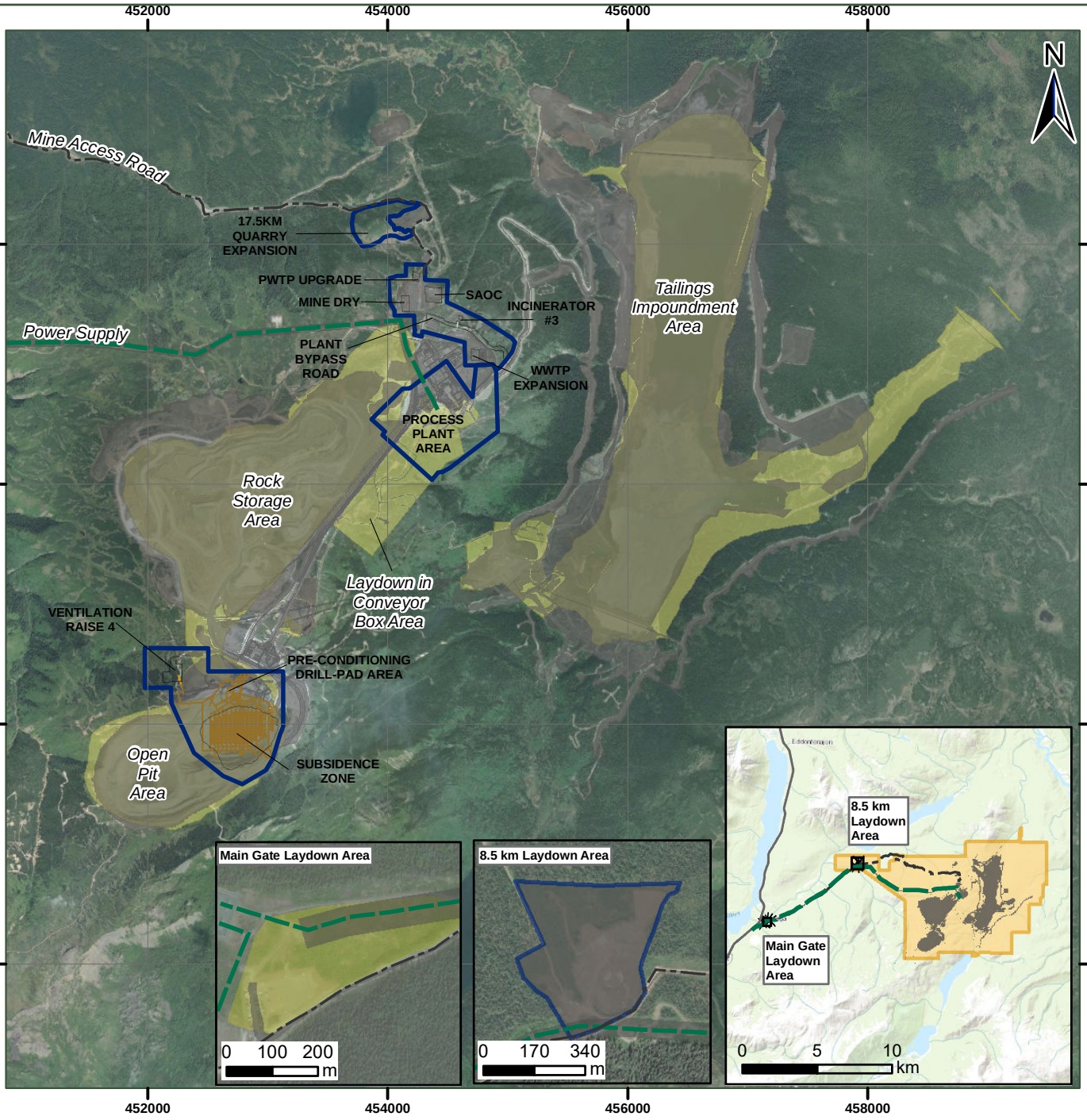
The Project will entail additional underground development, a transition from surface to underground mining, and modifications and expansion of the process plant. New and modified surface components and activities include:

- Process plant expansion, building upgrades and laydowns, to a throughput capacity of up to 15 Mtpa.
- Upgraded and expanded camp and administrative area to support the increased workforce through Project construction, including additional freshwater wells and expanded potable water and sewage treatment.
- New ancillary infrastructure and upgrades to existing infrastructure, including a new Mine dry facility accommodating 500 people, modification to existing roads, a new road bypassing the process plant, expansion of the 17.5 km Quarry, fuel storage and distribution upgrades, electrical substation upgrades, and construction facilities, including laydown areas.
- Development of pre-conditioning drill pads and VR 4 in the vicinity of the Open Pit Area.

Figure A-5 shows the production components of Project surface features, with existing Mine components illustrated in grey. The potential surface disturbance and the associated Project footprint areas are conceptually represented on Figure A-6 and Figure A-7.

Figure A-4: Block Cave Mining Schematic





LEGEND:

EXISTING COMPONENTS

- MINE ACCESS ROAD
- 287kV TRANSMISSION LINE
- EXISTING MINE

AS PERMITTED COMPONENTS

- PERMITTED MINE AREA
- AS PERMITTED COMPONENTS

PRODUCTION COMPONENTS

- UNDERGROUND WORKS
- PROJECT FOOTPRINT

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3. BACKGROUND IMAGERY - MAXAR 2023
4. COORDINATES: -129.758121W, 57.727226N
5. PROJECT NTS MAP SHEET: 104H116
6. FOOTPRINT DATA SUPPLIED BY NEWMONT 05/2024
7. PWTP - POTABLE WATER TREATMENT PLANT
8. WWTP - WASTE WATER TREATMENT PLANT
9. SAOC - SITE ASSET OPERATIONS CENTRE
10. PREPARED BY SLR

0 300 600 1,200 1,800 m

SCALE 1:50,000

DATA: NAD 1983 UTM Zone 9N

GRID: NAD1983 UTM ZONE 9N

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REPORT TITLE

RED CHRIS BLOCK CAVE PROJECT - PRODUCTION PHASE APPLICATION FOR AN AMENDMENT TO EAC #M05-02

FIGURE TITLE:

BLOCK CAVE PRODUCTION COMPONENTS

FIGURE NO: **A-5**

DATE: November 29, 2024 PROJECT NO: 233.30000.00007

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Figure A-6: Conceptual Representation of Supporting Project Components and Associated Project Footprint

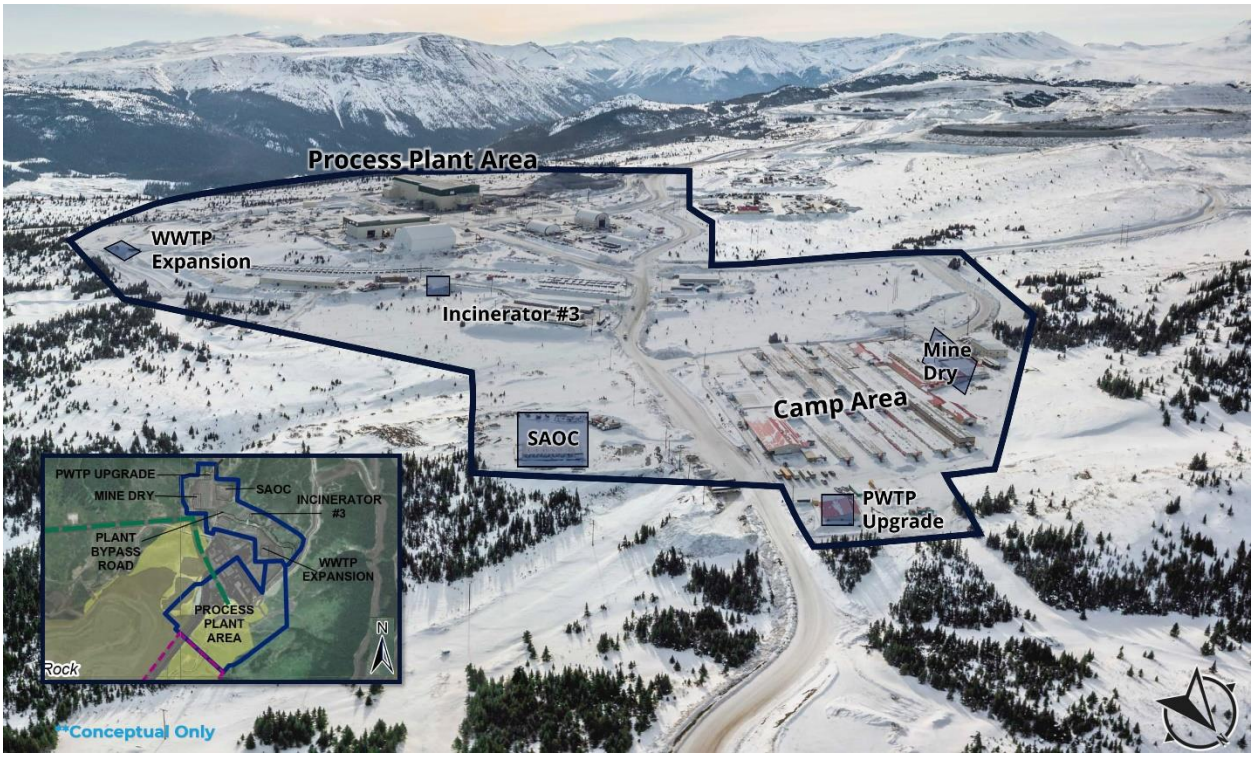
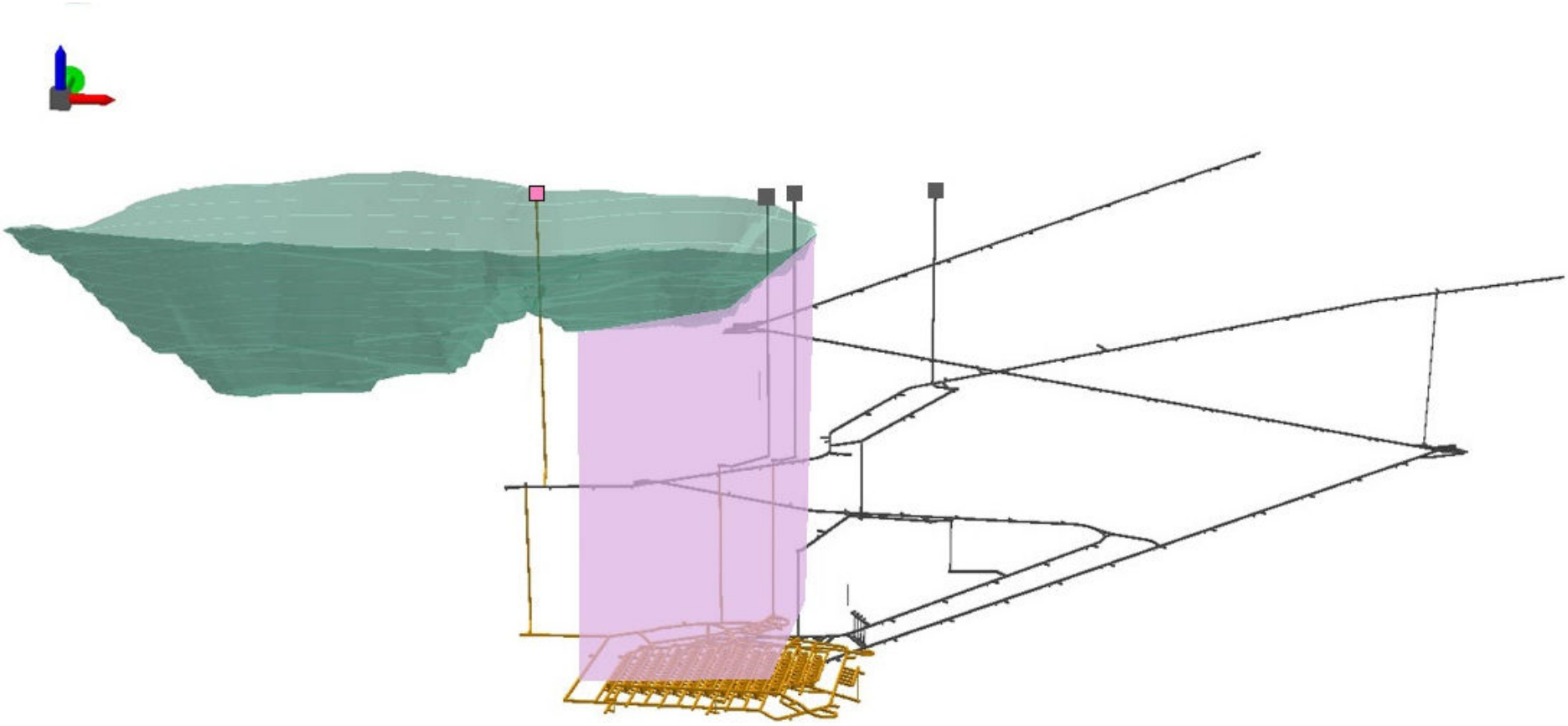


Figure A-7: Conceptual Representation of Block Cave Components and Associated Project Footprint

Figure A-8 shows an isometric view of the Project, which displays the existing and currently permitted Mine components in grey. Underground components and activities include:

- Development of the undercut and extraction levels below the block cave ore zone, accessed via the Naghā decline.
- The MHS, which receives ore from load-haul-dumps and consists of a coarse ore bin, crusher, fine ore bin, and feeder. The MHS is used to transfer the crushed ore to an approximately six km long, three-leg conveyor to bring the ore to the process plant.
- An expanded ventilation system, which includes an additional vent raise (VR4) and additional vertical development to allow air to circulate through the Mine workings.
- An underground Mine dewatering system, where a combination of positive displacement pumps will be used to move Mine water to the surface.
- An expanded electrical distribution network, including electrical sub-stations installed in service cuddies in the extraction level.
- Fuel station, to be located on the eastern side of the extraction level, consisting of multiple bays and a maintenance access. The fuel station is also designed to accommodate potential future requirements of electric charging stations.

- Explosives magazine designed to accommodate detonators, primers, detonation cord, packaged products, and bulk explosives separated over multiple bays.
- A workshop to service the underground fleet.
- Underground roadways for general purposes suitable for heavy and light vehicle traffic.



LEGEND:

- VENTILATION RAISE 4
- UNDERGROUND WORKS
- APPROVED UNDERGROUND INFRASTRUCTURE
- OPEN PIT AREA

NOTES AND SOURCES:

1. THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY AND SHOULD NOT BE USED FOR NAVIGATION
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REPORT TITLE

RED CHRIS BLOCK CAVE PROJECT - PRODUCTION PHASE APPLICATION FOR AN AMENDMENT TO EAC #M05-02

FIGURE TITLE:

ISOMETRIC OF PROJECT UNDERGROUND MINE DESIGN

FIGURE NO: **A-8**

DATE: November 29, 2024 PROJECT NO: 233.30000.00007

REV.	BY	CHK	DATE (M/DD/YYYY)	COMMENTS
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GIS PATH: G:_Projects\233\233_30000_RCBC\1_Maps\RPT\202402_ProjectOverview\233_30000_PO_A-8_Isometric.mxd

A.6.2 Workforce Requirements

NRCML employs approximately 725 employees and 1350 contractors across operations, exploration, and the Project team as of May 2023. 125 of NRCML's 725 employees are Tahltan and Tahltan Associates, accounting for approximately 20% of the workforce. The Project operations stage is anticipated to maintain a similar number of employees to present numbers.

During construction, the Project is predicted to generate approximately 3,047 direct full-time equivalent (FTE) positions in the Regional District of Kitimat-Stikine (RDKS) and 989 indirect FTE positions. At the provincial level, Project construction is estimated to generate 9,519 FTEs in BC. The total annual Project construction workforce would represent 0.7% of total construction workforce in BC in 2023. Over the 12-year Project operation period, the Project is estimated to generate 1,165 FTEs annually in the RDKS. Of the total annual Project related employment, 931 FTEs would be direct Project employment.

Underground development and operations for the Project require a unique skill set when compared to other conventional mining methods. That said, NRCML recognizes the need to support the continuity of employment for Open Pit employees. NRCML preference will be to transition all existing Open Pit workforce to support the Project.

The Project will require an increase in allowable occupancy of the onsite camp from 1200 to 1,500 persons.

As Red Chris is already an existing operational mine, NRCML has several training and development programs already in place, which will continue for the LOM. NRCML also offers opportunities for personal development for all employees and contractors, including financial literacy courses, on-the-job training and apprenticeship programs, process plant training, and management training.

In addition to these existing programs, NRCML plans to introduce skill development and training initiatives for the Project to help employees and contractors acquire the necessary skills and competencies as the Project transitions to underground operations.

As an operating site, Red Chris has a number of policies and programs already in place to facilitate a safe and productive working environment. These programs are applicable for the LOM and will apply throughout the duration of the Project.

A.6.3 Assessment of Alternatives

The section presents a two-fold assessment of alternatives as follows:

- **Alternatives to the Project;** which compares currently permitted surface mining alternatives with a combination surface mining and block cave mining (the Project) to achieve a total tonnage of processed ore of approximately 300 MT; which is the permitted storage capacity for the TIA.
- **Alternative Means of Carrying out the Project;** which discusses alternatives for selected project components and activities including production rate, underground waste rock disposal and diesel vs. electric mine fleet.

Components to be considered for an assessment of alternatives listed in the Environmental Assessment Office (EAO) Effects Assessment Policy (EAO 2020) have been identified, including the rationale for inclusion or exclusion in relation to the Project.

A.6.4 Future Potential Condition Context

The ore body identified for block cave mining extends past the volume included in this Amendment Application; an estimated 300 MT of ore reserves will remain at depth at the end of the operations stage of the Project.

B. Summary Description of the Proposed Changes to the Mine and the Assessment Scope for the Amendment Application

B.1 Amendment Assessment Process

NRCML is applying for an amendment to EAC #M05-02 for the Project under Section 32(1) of the BC *Environmental Assessment Act*. Under definitions set out by the EAO (2024a), this Project will follow a complex amendment assessment process, as the Project involves physical and material changes to the Mine resulting from the proposed change in mining method. The assessment process for complex amendments typically includes five key process steps as described below (EAO 2024a):

1 Amendment Initiation and Engagement: the EAO and Certificate Holder discussed the necessity of an amendment and submission of an Amendment Project Description. NRCML submitted an updated Project Description to the EAO and the Tahltan Central Government (TCG) on February 17, 2023 (NRCML 2023).

2 Amendment Procedures Developed: The EAO notified potentially affected First Nations and sought to identify participating Indigenous Nations for the amendment and formed the Technical Advisory Committee (TAC). The EAO and TCG have worked with participating nations and TAC members to develop Amendment Procedures. EAO finalized the Amendment Procedures in August 2024 and the Amendment Application Information Requirements (AIR) for the Project in November 2024.

3 Development and Submission of the Amendment Application: NRCML has developed this Amendment Application in accordance with the Amendment Procedures and Amendment AIR.

4 Review of the Amendment Application: The EAO will circulate this Amendment Application to the Participating Indigenous Nations and the TAC. A public comment period on the Amendment Application will be completed.

5 Amendment Assessment Report and Decision: The EAO will draft an Amendment Assessment Report and Amendment Order, which will be reviewed by the Certificate Holder, participating Indigenous Nations and the TAC. For this Project, these draft materials will be provided to the TCG Board and other Participating Indigenous Nations to inform their decision on consent.

B.1.1 *Declaration Act* Consent Decision-Making Agreement

On November 1, 2023, the Province of BC (Province) and the TCG signed the *Declaration Act* Consent Decision-Making Agreement for Red Chris Porphyry Copper-Gold Mine Project between the Tahltan Central Government and the province of BC, entered into agreement on November 1, 2023 (Consent Agreement). The Consent Agreement states that a Substantial Change to the EAC within the Consent Area must receive the consent of the Tahltan, who hold the rights to the lands and surrounding territory of the Mine.

Tahltan consent may be contingent upon the inclusion of specific terms and conditions in the Amendment Order. Without Tahltan consent, the requested EAC Amendment will not be granted by the EAO. The TCG Board of Directors will issue a TCG Notice of Decision to the Province indicating whether consent has been granted.

The Consent Agreement and Amendment Procedures explain the process followed by the EAO and the TCG, as co-regulators, to prepare the TCG Notice of Decision and the final EAO decision. The Amendment Application Information Requirements (AAIR) specifies what must be included in the Amendment Application to meet the requirements of both the EAO Environmental Assessment (EA) and the TCG Risk Assessment process, ensuring both regulators have sufficient information to inform their respective decision makers.

B.2 Permits and Authorizations

NRMCL maintains the permits and approvals to operate an open pit mine and milling operation at Red Chris, along with necessary authorizations to support ancillary operations, including the camp. Several of the existing provincial permits will require amendments to support the Project that will be applied for after submission of this Amendment Application. Permit amendments would be issued following successful amendment of the EAC. The Project does not have any federal legislation triggers.

B.3 Relevant Policies, Initiatives, and Assessments

The following is a list of provincial policies and guidance documents that were considered in the development of this Amendment Application:

- Amendments to EAC and Exemption Orders – Guidance for Holders (EAO 2024a);
- Envrionmental Assessment Office User Guide (EAO 2020c);
- Early Engagement Policy (EAO 2019a);
- Readiness Decision Policy (EAO 2019b);
- Process Planning Policy (EAO 2020a);
- Guide to Indigenous Knowledge in Environmental Assessments (EAO 2022);
- Application Information Requirements Guidelines (EAO 2024b);
- Human and Community Well-Being Guidelines for Assessing Social Economic and Cultural Effects in Environmental Assessment (EAO, 2020b); and
- Effects Assessment Policy (EAO 2020b).

The TCG has agreements in place with the Government of BC regarding impact assessment and Red Chris. The Tahltan Impact Assessment Policy (TCG 2021) was developed in collaboration between the TCG and the Government of BC to implement the consideration of impacts to Tahltan Values and Tahltan Rights and Title within the provincial EA process. The Tahltan Impact Assessment Policy outlines three possible types of assessments for projects, including the process set out in the Consent Agreement.

The Tahltan Impact Assessment Policy (TCG 2021) was developed in collaboration between the TCG and the Government of BC to implement the consideration of impacts to Tahltan Values and Tahltan Rights and Title within the provincial environmental assessment process.

B.4 Land Use Plans

Red Chris is within the area managed by the Cassiar Iskut-Stikine Land and Resource Management Plan (BC Gov. 2000a), which guides management of Crown lands and resources within the Cassiar Iskut-Stikine Region. The Mine is located within the Todagin Resource Management Zone, one of fifteen geographic resource management zones in the management plan. The Todagin Resource Management Zone includes Todagin Plateau and Tsatia Mountain, and the eastern boundary extends to the tree line of the Klappan drainage. The Todagin Resource Management Zone has been designated a Wildlife Management Area; however, mineral exploration, Mine development, and associated activities continue to be recognized as appropriate activities under the plan. Red Chris is also in the vicinity of, but outside of, the extents of the Klappan Plan (TCG and BC Govt, 2017) which was developed by the BC Government and Tahltan Nation to provide joint recommendations for long term management and land use direction that embrace the area's significant social, cultural, environmental, and economic values.

There are two land use plans developed by Indigenous Nations that do not overlap directly with the Mine site but are adjacent to or overlapping portions of the concentrate transport route along Highway 37 and Highway 37A to Stewart.

- The Gitanyow Lax'yip (i.e., Gitanyow Territory) Land Use Plan was developed in 2012 under the Gitanyow Huwilp Recognition and Reconciliation Agreement.
- The Nisga'a Lisims Government (NLG) adopted a land use plan for Nisga'a lands in December 2002 with the purpose of guiding land use decisions.

The TCG has also created the Tahltan Stewardship Initiative to support Tahltan "assert self-determination and fulfill our inherent stewardship and caretaking responsibilities" in Tahltan Territory (TSI 2024).

B.5 Indigenous Nation Arrangements

As described in B.1, the Province and the TCG signed the *Declaration Act* Consent Decision-Making Agreement for the Red Chris Project that states the proposed Project must receive the consent of the Tahltan in order to proceed and established a process to be followed by the EAO and the TCG, as co-regulators, to prepare the TCG Notice of Decision and the final EAO decision regarding the Project.

NRCML has an Impact, Benefit, and Co-Management Agreement *Amended and Restated Impact, Benefit and Co-Management Agreement dated as of August 15, 2019, between Newcrest Red Chris Mining Limited, Tahltan Central Government, Tahltan Band and Iskut Band* (IBCA) that establishes the mechanisms for a cooperative and mutually beneficial working relationship between the Parties for the Mine.

The Nisga'a Treaty, a tri-partite agreement between the Nisga'a Nation, Canada, and the Province of BC, was signed on 27 April 1999, and ratified and received royal assent in the *Nisga'a Final Agreement Act* on May 11, 2000 (BC Gov. 2000b). Chapter 10 of the Nisga'a Treaty outlines the requirements for NLG involvement in projects within or near Nisga'a lands that have the potential to impact the environment. Highway 37 overlaps with the Nass Area and Nass Wildlife Area, which are defined areas under the Nisga'a Treaty. Therefore, the EAO must consult with the NLG in accordance with the Province's obligations under Chapter 10, paragraph 6, of the Nisga'a Treaty (BC Gov. 2000b). The assessment of the Project will align, as required, with Chapter 10, paragraph 8, of the Nisga'a Treaty, specifically 8e and 8f.

C. Brief Overview of Engagement Activities

This overview is in relation to Indigenous nations, the public, local governments, provincial and federal government agencies, and stakeholders within the context of the proposed changes to the Mine, and within the context of the Amendment Application.

C.1 Tahltan

NRCML is committed to working collaboratively with the Tahltan to foster mutual understanding and awareness of shared interests while meeting the objectives of the IBCA. This commitment applies to the Project and related communications and engagement activities.

Since 2019, NRCML has engaged with Tahltan on the Project, building on a life-of-mine relationship with the Tahltan. Guided by established engagement principles, NRCML has employed a variety of activities to share information about the Project and work collaboratively with Tahltan leadership. These efforts have involved the elected TCG Executive (President, Vice President, and Secretary Treasurer), TCG family representatives, TCG administrative directors, and the Chiefs and Councils of the Iskut Band and Tahltan Band. This collaboration aims to uphold the intentions of the IBCA while integrating the interests and values of the Tahltan into this Amendment Application.

Engagement activities have included in-person and virtual small group meetings, community meetings, site tours, workshops, formal presentations, public engagements, one-on-one discussions, letters, and emails. This engagement is ongoing to maintain a strong and respectful partnership. For detailed information regarding engagement activities with the Tahltan, please refer to Chapter 4.0.

C.2 Nisga'a Nation

NRCML has undertaken an assessment under Chapter 10, paragraphs 8(e) and 8(f) of the Nisg̲a'a Treaty (Nisg̲a'a Treaty 1999), following Nisg̲a'a Nation guidance. This assessment considers potential Project-related impacts on Nisg̲a'a interests and rights as defined by the Nisg̲a'a Treaty. Engagement and correspondence with the NLG in relation to the Project was initiated by NRCML in December 2023 and continues at present. Engagement has included virtual meetings and emails. The NLG, as representatives of the broader Nisg̲a'a Nation citizenship, has been the key point of contact for NRCML. The NLG has advised NRCML to engage primarily with the NLG and its representatives (e.g., NLG Lands and Resources Department). Engagement with the Nisg̲a'a Nation has also included the EAO TAC regarding the development of the AAIR; this engagement has not been included here. Changes made to the AAIR reflect the requirements of the assessment under Chapter 10 of the Nisg̲a'a Treaty.

C.3 Gitanyow Nation

In December of 2023 and July of 2024, NRCML held meetings with the Gitanyow Nation, during which the Gitanyow Hereditary Chiefs Office (GHC) expressed interest in NRCML participating in the Gitanyow Wilp Sustainability Assessment Process (WSAP). The WSAP will consider the Project's offsite activities, with specific reference to the increase in Project-related traffic volume through Gitanyow territory. Subsequent engagement has been completed by email and phone call.

NRCML has since entered the WSAP and submitted an Initial Description of Activities to support the development of the WSAP Project Direction, which will outline the scope of the assessment that the Gitanyow Nation will undertake under the WSAP.

The objectives of the Initial Description of Activities are to:

- Outline Project components that may affect the Gitanyow Lax'yip or Huwilp.
- Support the development of the WSAP Project Direction.
- Outline how the Project aligns with the WSAP Strategic Direction.

C.4 Tsetsaut/Skii Km Lax Ha

Some parts of the Project's concentrate transportation route passes through the asserted territory of the Tsetsaut/Skii Km Lax Ha Nation. NRCML made various attempts to engage the Tsetsaut/Skii Km Lax Ha Nation on the Amendment Application. There has historically been no relationship between NRCML and the Tsetsaut/Skii Km Lax Ha Nation; however, NRCML's parent company, Newmont, has a relationship with the Tsetsaut/Skii Km Lax Ha Nation through its Brucejack operation (which Newmont acquired as part of their acquisition of Pretium Resources Inc.).

C.5 Public and Local Engagement

C.5.1 Public

NRCML has conducted various public engagements activities on the Project. This included two open houses for the public held in Whitehorse, Yukon and Stewart, BC in March and August 2024, respectively. To reach a broader audience, NRCML developed and shared a Virtual Open House on Newmont's website and Facebook and LinkedIn accounts. Over 1,500 people viewed the Virtual Open House between August 2024 and October 31, 2024. NRCML has also presented the Project at a series of local conferences across BC. These have included the Minerals North conference in Quesnel and Terrace in 2023 and 2024, respectively, and the Resource Breakfast Series in Vancouver in September 2024. Additionally, a series of community meetings were held in Dease Lake, Iskut, and Telegraph Creek. Although directed at Tahltan community members, these engagements were open to the public.

C.5.2 Local Government

The Mine is located within the RDKS. NRCML has held two meetings with the RDKS to discuss the Project. NRCML hosted various Board members of the RDKS in its Vancouver office in September 2024 for a meeting to introduce the company and its operations in BC, and to discuss the Project and potential future impacts on the RDKS-operated Foreman Ridge Waste Management Facility (FRWMF). NRCML held a virtual meeting with representatives of the FRWMF, following the initial meeting, to discuss specific impacts to the facility once the Project is in the construction phase.

The District of Stewart hosts the Port of Stewart, where Red Chris ships its concentrate. NRCML has conducted two meetings with the District of Stewart since May 2024 during which the Project was discussed.

D. Tahltan Risk Assessment

The Tahltan Risk Assessment is an assessment to be carried out by the TCG in accordance with the Tahltan Risk Assessment Factors. The Tahltan Risk Assessment section of the Amendment Application has been prepared by NRCML to provide the TCG with the information required in the Tahltan Application Information Requirements (Tahltan AIR) to inform the Tahltan Risk Assessment. The Tahltan Risk Assessment section of the Amendment Application as well as the information in the rest of the Amendment Application will be used by the TCG in their assessment of the Project.

The Tahltan Risk Assessment covers seven Areas of Interest (AOI), and thirteen Values. AOI are spatial boundaries defined by the Tahltan based on Tahltan knowledge, use of the land, and contemporary uses.

The assessment considers the following:

- An overview of the AOI from ancient and historical times through to the modern day.
- An assessment of each of the Values identified in the Tahltan AIR considering:
    - Ancient and historic trends for the Value;
    - Condition of the Value within the AOI without the Project;
    - Condition of the Value within the AOI with the Project; and
    - Future Conditions.
- Future Context.

The assessment of the condition of a Value with the Project includes consideration of the uncertainty associated with the assessment of the potential effect or with the identified mitigations.

E. Summary of Key Issues Raised

This summary includes issues raised to date and through the application process by Indigenous nations, the public, local governments, provincial and federal government agencies, and stakeholders.

Table E-1: Summary of Issues Raised

Group	Topic	Description	Interest/Concern	Approach/Response
Tahltan	Approvals process	Collaborative engagement process/community engagement	Specific interest in an inclusive and transparent engagement process for the Project.	NRCML will continue its collaborative engagement planning process with the TCG throughout the Project's approval process.
Tahltan	Approvals process	Consent decision-making process	Concern regarding the implementation of the Consent Agreement (TCG and Province of BC 2023; Consent Agreement) in place for the Project approvals process.	Continue collaborative engagement efforts with the TCG to keep Tahltan apprised of the approvals process.
Tahltan	Employment and local economy	Workforce transition	Concern regarding potential job losses due to the change in mining method (e.g., concern regarding the implications of increased automation).	It is anticipated that the change in mining method will support the maintenance and creation of new, more highly skilled jobs, training programs, and contracting opportunities. Workforce transition specific to the Tahltan will be undertaken collaboratively.
Tahltan	Employment	Rotational work schedule	Concern regarding the potential negative impacts of a rotational (fly in/ fly out) work schedule on family cohesion (e.g., missing cultural events).	NRCML is committed to continuing dialogue to understand and manage potential impacts; reflected in the Social Baseline Report (Appendix 11.11-B).
Tahltan	Employment	Local employment/training	Specific interest in training programs and other supports to ensure that Tahltan members can benefit/be employed by the Project.	The total number of jobs currently onsite and predicted during block cave operations is comparable; however, the types of jobs are anticipated to change. The potential for job reductions will be minimized to those who elect not to pursue re-training. The development of a transition plan is underway and slated for completion in late 2025/early 2026; engagement with the Tahltan will be included in this process.

Group	Topic	Description	Interest/Concern	Approach/Response
Tahltan	Local employment and economy	Local contracting/business opportunities	Interest in expanding programs/partnerships around local employment and Tahltan professional development.	Local employment programming is currently in development in partnership with the Tahltan Nation Development Corporation. One component of this program is maximizing Tahltan employment through a leadership program, skills assessment, and a 'Mining 101' program that is not contingent on prior experience. A program currently in place, which is supported by NRCML, is the Heavy Equipment Operators program, which will be integrated into the Project.
Tahltan	Local economy	Community investment/benefit sharing	Interest in expanding benefit-sharing (through the IBCA) in relation to the Project.	The implementation of the Project will support the current benefit-sharing arrangement under the IBCA, as it will with the existing community investment programs. The terms of the IBCA are confidential.
Tahltan	Culture	Food security	Concern about the potential for the Project to negatively impact local food security.	NRCML is committed to continuing dialogue and support through mechanisms such as the existing community investment program to understand and manage potential impacts.
Tahltan	Wildlife	Availability of target species	Concern about the potential impacts of the Project on wildlife (and their movements/migration); availability of target species.	The transition of mining method is anticipated to improve noise, vibration, and air quality outcomes.
Tahltan	Dust	Air quality monitoring	Concern regarding dust and air contaminants in and around the community of Iskut.	Air monitoring stations have been placed around the community of Iskut in collaboration with the Iskut Band. It is anticipated that air quality will improve with the implementation of the Project.

Group	Topic	Description	Interest/Concern	Approach/Response
Tahltan	Closure	Closure and reclamation planning	Concern regarding the subsidence zone; how deep it will go, how long it will take to fill with water following closure, and how long will the fence need to be around it.	The existing pit and subsidence zone will take 60–70 years to fill. A barrier (fence or berm) will be present to prevent accidental access to the lake.
Tahltan	Housing	Local infrastructure	Concern related to the Project reducing the availability of in territory housing.	NRCML is committed to continuing dialogue and support through mechanisms such as the existing community investment program to understand and manage potential impacts.
Tahltan	Health and well-being	Community health and well-being (including mental health)	Interest in the Project supporting local community health and well-being programming, including mental health and youth. Additional interest in developing programs to be available for youth in local schools (e.g., art, music, dance).	NRCML offers employees and their family an employee assistance program. NRCML is committed to continuing dialogue and support through mechanisms such as the existing community investment program to understand and manage potential impacts.
Tahltan	Services and infrastructure / culture / employment and economy	Out-migration	Concern related to perceived out-migration of Tahltan membership from local community, particularly young adults and families, and associated negative impacts on community cohesion.	NRCML is committed to continuing dialogue to understand and manage potential impacts.
Tahltan	Water	Groundwater/surface water	Concern regarding the potential risks of the Project on water resources (Quarry Creek to Klappan River watershed, and Trail Creek to Kluea Lake watershed), including associated habitats of cultural significance.	Red Chris operates a large surface and groundwater monitoring network that includes monitoring onsite and at locations offsite; results are reported annually. NRCML has committed to increasing direct information sharing with the local communities on this topic.

Group	Topic	Description	Interest/Concern	Approach/Response
Tahltan	Water	Tailings management	Concern regarding the TIA; long-term tailings management, and the potential risk to downstream communities.	NRCML, and its parent company Newmont, share this concern and are committed to a review of Red Chris' closure plan. The Project does not include contemplation on increasing the capacity of the TIA beyond it currently permitted bounds. The Project enables continued operations that will increase the amount of time available to identify the best approach to long-term closure.
Tahltan	Safety	Road traffic	Concern related to Project-induced road traffic and community safety.	Project-related traffic is anticipated to increase during the construction stage and then subsequently return to current levels. The Tahltan Industry Working Group, of which NRCML is a member, was successful in recently securing $195 million in funds for Highway 37 improvements.
Nisga'a	Safety	Road traffic	Expressed concerns about Project traffic on Highway 37 and Highway 37A, and potential interactions with access to natural resource areas, safety related to vehicle traffic, and accidents/malfunctions (e.g., spills) in the Nass River Watershed.	Engagement between NRCML and the Nisga'a Nation is ongoing related to the potential effects of the Project. The assessment's scope was expanded to include this topic.
Nisga'a	Land Use	Marine shipping/ concentrate handling	Expressed concerns about marine shipping in the Portland Canal. Concern is related to both the biophysical environment as well as disruption of harvesting activities.	Engagement between NRCML and the Nisga'a Nation is ongoing related to the potential effects of the Project. The assessment's scope was expanded to include this topic.

Group	Topic	Description	Interest/Concern	Approach/Response
Nisga'a	Socioeconomic	Sociocultural/ socioeconomic	Interest in employment and economic opportunities. Effects to culture and cost of living related to potential impacts on the biophysical environment (e.g., from marine shipping and road traffic).	Engagement between NRCML and the Nisga'a Nation is ongoing related to the potential effects of the Project. The assessment's scope was expanded to include this topic.
Gitanyow	Assessment Process		In general, key GHC interests and concerns in relation to the Project have been communicated directly to NRCML and have been related to application of the Gitanyow WSAP. The GHC have clarified that the offsite activities, particularly the potential for traffic-related impacts within Gitanyow Lax'yip, will be the primary focus of the WSAP.	NRCML has agreed to undertake such process, which remains ongoing. NRCML continues to engage with the GHC as the WSAP is ongoing and outside of the EAO EA process.
District of Stewart	Infrastructure and services	Waste management	Increased waste generated from the Project and other projects in the area. Regional waste management facilities concerned they could reach capacity and be unable to service local resident population.	NRCML to coordinate with other local operations regarding the sequencing of projects and expected waste increase. NRCML to work with representatives of the FRWMF to ensure waste is adequately categorized to maximize facility capacity. Waste management considerations are captured in Section 11.12, Infrastructure and Services.
District of Stewart	Local economy	Community investment/ benefit sharing	District of Stewart unable to maintain key pieces of local and community infrastructure (i.e., bridge to cement plant), which could impact NRCML operations.	Coordinate with regional parties to lobby government around shared interests - such as Highway 37 funding. The implementation of the Project will allow NRCML to continue to support community investment programs.

Group	Topic	Description	Interest/Concern	Approach/Response
District of Stewart	Employment and local economy	Workforce transition	Concern about potential job losses due to the change in mining method. For example, concern about the implications of increased automation.	The total number of jobs currently onsite and predicted during block cave operations is comparable; however, the types of jobs are anticipated to change. It is anticipated that the change in mining method will support the maintenance and creation of new, more highly skilled jobs and training programs. The development of a transition plan is underway and slated for completion ahead of the Project operations
District of Stewart	Employment and local economy	Local employment/ training	Concern about lack of recruitment efforts made by NRCML in the District of Stewart.	NRCML is exploring expanding its recruitment efforts to include the District of Stewart.

F. Summary of Key Effects, Proposed Mitigation Measures, and Predicted Residual and Cumulative Effects

F.1 Valued Component Effects Assessment

F.1.1 Air Quality

The Amendment Application has evaluated the potential effects of the Project on the Air Quality Valued Component (VC), specifically focusing on changes to air quality due to combustion of fossil fuels and release of fugitive gases (sulphur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO)) and particulate matter (total suspended particulates (TSP), respirable particulates of less than 10 microns (PM_{10}). respirable particulates of less than 2.5 microns ($PM_{2.5}$) and diesel particulate matter (DPM)). Air Quality is directly and indirectly linked to the Vegetation and Terrestrial Ecosystems and the Human Health VC's.

The approach to assessing air quality involved measurement data and modelling. Measurement data required for modelling included meteorological data (temperature, winds, humidity, precipitation, etc.) and existing air quality data for key air quality indicators (SO_2, NO_2, CO, TSP, etc.). In addition, detailed information on Project activities and equipment specifications for each stage were required as part of the EAC Amendment Application for the Project. This information, along with emission rates, duration of emission, location of receptors, meteorology, and topography are collected and used in modelling to produce a quantitative assessment.

For the Project, since, in some cases, indicators for the Existing Conditions exceed provincial criteria, an additional metric was used, the difference between the Existing Conditions and the Project Case. Where the Existing Conditions ground-level concentrations (GLC's) were predicted to be higher than Project Case this was considered a positive effect of the Project.

In predicted cases where the Existing Conditions was lower than the Project Case this was considered a negative effect of the Project by qualitative assessment. By using a combined qualitative and quantitative assessment approach, a more realistic assessment of the effects of the Project was developed given that the Original Application, and the development of the Mine, proceeded current air quality criteria.

After a review of predicted concentrations, two air quality indicators, NO_2 and DPM, showed potential negative effects under the Project Case based on the modelling developed for the Project (Appendix 11.3-A). These potential negative effects were predicted for the 1-hour NO_2 and 2-hour DPM indicators as a result of the testing of the proposed emergency use diesel generators. The main reason of the negative effects is due to an increase in number of diesel generators (at the ground level) in the Project Case than in the Existing Conditions Case, despite most activities moving underground.

Based on the new mitigations proposed for the Project, the true GLC's are expected to be lower than the modeled concentrations for NO_2 and DPM as the testing for emergency use diesel generators will be completed in pairs (i.e., 3 pairs total for the Project Case). Testing for each series of pairs will not occur within the same 24-hour period until shorter testing timeframe is demonstrated to be at least as effective in mitigating air emissions for NO_2 and DPM. The remaining indicators showed a positive effect, as all indicator values for the Project Case were below the Existing Conditions Case concentrations.

The Project is transitioning from above ground to below ground operations, which is predicted to reduce negative effects from existing operations, thereby improving air quality for most indicators. After evaluation of existing and new mitigations, air quality is expected to be improved.

No negative effects were identified for the Project on the Air Quality VC. Overall, the Project is considered to have a positive effect on Air Quality compared to the Existing Conditions Case.

F.1.2 Acoustics

The Amendment Application has presented the effects assessment for the Acoustics VC. The Acoustics VC includes two subcomponents: Noise and Vibration. The findings of the Acoustics VC effects assessment have been considered in the assessment for the following output interactions; Human Health VC, Wildlife and Wildlife Habitat VC, Soil, Landscape, and Terrain VC and Culture VC. The existing conditions for the Acoustics VC were determined through an acoustics and vibration assessment for the current Mine operations. The assessment involved both sound and vibration monitoring at various locations for up to 144 hours around the active Mine in February 2024, and sound level predictions for onsite Mine operations and offsite traffic along the Transportation Corridor from Highway 37 and Highway 37A, covering the community of Iskut and the District Municipality of Stewart, including the Stewart Bulk Terminal. The assessment quantified the baseline and operational sound levels through monitoring and predictions to provide an understanding of how the operation of the Mine currently contributes to the acoustic environment. The measured sound and vibration levels where then used to develop an acoustics model for the Project.

The local assessment area (LAA) and Regional Assessment Area (RAA) includes a 10 km perimeter around the Mine, and a 5 km perimeter from offsite mine traffic to cover the potential extent of sound and vibration propagation from existing and future mining activities and offsite traffic compared to existing conditions.

Through the assessment two potential effects associated with onsite mining activities and offsite traffic were identified for the Acoustics VC: changes to sound levels and changes to vibration levels. Based on the results of the assessment for the Acoustics VC, existing mitigation measures for the Mine are predicted to limit potential residual effects of the Project.

Several potential interactions have been identified between Project activities and the Acoustics VC, however interactions that occur can be managed to acceptable levels through known management practices. Approaches for managing potential effects of the Project activities on acoustics will adhere to known practices.

Following the application of existing mitigations described for each of the potential effects, the potential effects are not expected to result in a residual effect for the Acoustics VC.

Overall, the transition to block cave mining (i.e., the Project) is expected to lead to reductions in sound and vibration by moving operations underground and reducing of surface disturbances. This is anticipated to have positive implications for local communities and wildlife (i.e., other linked VCs).

There are no interactions identified for sound and vibration, or the interactions that occur can be managed to acceptable levels through known management practices. The mitigation measures established for the Acoustics VC from the Original Application are considered sufficient to mitigate potential Project effects. As a result, no new or unproven mitigation measures have been proposed for the Acoustics VC, and no follow-up strategies are warranted.

No residual negative effects were identified for the Project on the Acoustics VC.

F.1.3 Surface Water

The Amendment Application has presented the effects assessment for the Surface Water VC. The Surface Water VC includes two subcomponents: Surface Water Quantity and Surface Water Quality. This section has also included a discussion related to geochemistry as the geochemistry of geologic materials managed or exposed through mining is an important determinant of the composition of surface water managed within and discharged from the Mine.

The Surface Water VC has known input interactions with the Groundwater VC and the Soil, Landscape, and Terrain VC. The residual effects assessment for each of these VCs has been considered for this assessment. The findings of the Surface Water VC effects assessment have been considered in the assessment for the following output interactions, the Groundwater VC, the Soil, Landscape, and Terrain VC, the Fish and Aquatic resources VC, the Vegetation and Terrestrial Ecosystems VC, the Wildlife and Wildlife Habitat VC, the Human Health VC, and the Culture VC.

The LAA and RAA for the Surface Water VC are the same as (LAA) or similar to (RAA) the local and regional study areas as defined in the Original Application to allow for the comparison of the predicted effects of the Permitted Case to the Project Case and to align with the LAA and RAA for the Fisheries and Aquatic Resources VC.

The background conditions for Surface Water have been summarized using information for the local study area in the Original Application, as well as updated reports presenting information representative of pre-Mine development. The updated conditions present updates to conditions representative of Mine-impacted conditions (2016 through to the end of 2023). The background conditions and updated conditions are relevant components that make up the existing conditions that have been used in the assessment of environmental effects for the Surface Water VC.

The Project footprint is largely within the limits of current mining activity and associated disturbances. Several potential interactions have been identified between Project activities and the subcomponents of the Surface Water VC. Mitigation measures already proven in association with the permitted mining activities are available for implementation. Also, planned but not yet implemented mitigations have been taken into consideration during the effects assessment for the Surface Water VC.

Following the application of mitigations described for each of the potential effects, there are potential residual effects (both positive and negative) of the Project for Changes in Streamflow (Potential effect 2) and Changes to Surface Water Quality and Changes to Concentrations of Parameters of Concern in Natural Waterbodies (Potential Effects 3 and 4).

There are positive effects in stream flows from the Project Case relative to the Permitted Case which are credited to small variations in the simulated TIA and RSA seepage rates, catchment areas, and rates of flooding of the open pit and block cave Mine between the two assessment cases.

Development of the Project is anticipated to result in improvements in certain water quality parameters at certain locations relative to the Permitted Case. The Project reduces the volume of waste rock generated and stored in the RSA, which in turn reduces chemical loadings in RSA runoff that contribute to TIA seepage. Positive effects of the Project occur during the closure/post closure stage, when differences in RSA loading between the Project and the Permitted Case becomes apparent.

F.1.4 Groundwater

The Amendment Application has evaluated the potential effects of the Project on the Groundwater VC, specifically focusing on changes to groundwater quantity and groundwater quality due to changes in groundwater flow and concentrations of parameters of potential concern (POPCs) in groundwater. The Groundwater VC has known input interactions with the Surface Water VC. The residual effects assessment for the Surface Water VC has been considered in this assessment. The findings of the Groundwater VC effects assessment have been considered in the assessments for the following output interactions: the Surface Water VC, Human Health VC, Vegetation and Terrestrial Ecosystems VC, and the Culture VC.

The LAA for the Groundwater VC aligns with the boundary that has been used for the groundwater model domain. It encompasses groundwater monitoring well locations in the vicinity of the Project footprint. The RAA is similar to the Regional Study Area for the Original Application (AMEC 2004), which “encompasses adjacent drainage basins not directly affected by the Project, but within the general region of the development” and aligns with the RAA for surface water quantity and quality and aquatics.

The background conditions for Groundwater have been summarized using information for the local study area in the Original Application, as well as updated reports presenting information representative of pre-Mine development. The updated conditions present updates to conditions representative of Mine-impacted conditions (2016 through to the end of 2023).

The background conditions and updated conditions are relevant components that make up the existing conditions that have been used in the assessment of environmental effects for the Groundwater VC.

The assessment establishes measurement indicators for both groundwater quantity and quality, focusing on absolute values, changes in values, frequency of events, and timing. Quantitative and qualitative data were used to evaluate existing values for groundwater quantity and quality and predict future changes. The results of predictive modeling conducted by BGC Engineering Inc. (2024b,) and Lorax (2024a,) were used to evaluate anticipated future conditions.

Two potential Project effects were identified and assessed for the Groundwater Quantity subcomponent: changes to groundwater quantity including flow and water table (Potential Effect 1) and changes to interactions with surface water (Potential Effect 2). Changes in groundwater flow was selected as a potential effect because depressurization of the block cave has the potential to generate changes in the water table. Changes to interactions with surface water was selected due to the potential for changes in TIA seepage from an increased tailings deposition rate.

The potential effects assessed for the Groundwater Quality subcomponent included changes in groundwater quality (Potential Effect 3). Changes in groundwater quality was selected as a potential effect because of the potential for groundwater to convey POPCs to environmental receptors in surface water.

While there are several important mitigations that are relevant to the Groundwater VC, these mitigations are inherent components of the Mine design in both the Permitted Case and the Project Case and have generally similar influences on the predictions generated for each case. After evaluation of mitigations, potential positive and negative effects were identified.

Following the application of mitigations described, there are potential residual effects of the Project for all three identified Potential Effects.

Identified positive effects to groundwater discharge as a result of the Project are predicted to be flow increases in some watercourses relative to existing conditions. These increases are described in more details in the Surface Water VC.

Development of the Project is anticipated to result in improvements in certain water quality parameters at certain locations relative to the Permitted Case. Due to the reduced volume of waste rock generated through development of the Project and stored in the RSA during closure and post-closure, and because RSA runoff is directed to the TIA, reduced chemical loadings in RSA runoff contribute to reduced concentrations in TIA seepage. Positive effects of the Project occur during the closure and post-closure stage, when differences in RSA loading between the Project and the Permitted Case becomes apparent.

Negative effects to groundwater flow were identified during operations, when depressurization of the block cave is at its maximum. Negative effects to surface water flow were identified in the TIA during operations; however, the Project does not cause an increase in overall seepage, merely a shift in timing.

Potential negative residual effects for Changes to Groundwater Quantity Including Flow and Water Table (Potential Effect 1) are negligible in magnitude, within the LAA, medium term in duration, fully reversible, continuous and of a low risk.

Potential negative residual effects for Changes to Interactions with Surface Water (Potential Effect 2) are negligible to low in magnitude, within the LAA, long term in duration, partially reversible, continuous and of a low risk. Negative effects to groundwater quality are predicted to occur due to the accelerated rate of tailings deposition and consequent earlier termination of the operations stage in the Project Case, and from the earlier completion of pit flooding and consequent discharge of treated pit water to the TIA, also in the Project Case. The differences in the timing of Mine activities between the Project and the Permitted Case is predicted to result in changes in the timing (but not the magnitude) of TIA seepage concentrations of dissolved copper at the onset of the closure stage, and sulphate at the onset of the post-closure stage.

Potential negative residual effects for Changes in Groundwater Quality (Potential Effect 3) are negligible to low in magnitude, within the LAA, short to medium term in duration, partially reversible, continuous and with a low to moderate risk.

No residual cumulative effects are reasonably foreseeable in association with the Groundwater VC.

The performance of planned mitigations and outcomes from active monitoring programs will be reviewed regularly as part of on-going annual reclamation reporting and Red Chris Monitoring Committee activities required under NRCML's *Mines Act* and EMA permits.

F.1.5 Fisheries and Aquatic Resources

The Fisheries and Aquatic Resources VC has known input interactions with the Surface Water VC, the Groundwater VC, and the Soil, Landscape, and Terrain VC. The findings of the Fisheries and Aquatic Resources VC have been considered in the assessment for the following output interactions: the Wildlife and Wildlife Habitat VC, the Human Health VC and the Culture VC.

The LAA and RAA for the Fisheries and Aquatic Resources VC are the same as (LAA) or similar to (RAA) the local and regional study area as defined in the Original Application to allow for the comparison of the predicted effects of the Permitted Case to the Project Case and to align with the LAA and RAA for the Surface Water VC.

The background conditions for Fisheries and Aquatic Resources have been summarized using information for the local study area in the Original Application, as well as updated reports presenting information representative of pre-Mine development. The updated conditions present updates to conditions representative of Mine-impacted conditions (2005 through to the end of 2023). The background conditions and updated conditions are relevant components that make up the existing conditions that have been used in the assessment of environmental effects for the Fisheries and Aquatic Resources VC.

The Project footprint is largely within the limits of current mining activity and associated disturbances. Several potential interactions have been identified between Project activities and the subcomponents of the Fisheries and Aquatic Resources VC. Mitigation measures, already proven in association with the permitted mining activities, are available for implementation.

Positive effects to fish health and/or fish productivity related to water quality are attributed to the improvements in water quality in the Project Case relative to the Permitted Case. Due to the reduced volume of waste rock generated through the Project Case and stored in the RSA during closure/post closure, reduced chemical loadings in the RSA runoff contribute to reduced concentrations in TIA seepage.

Specifically, positive effects associated with the Project relative to the Permitted Case are noted at stations NEA-0.1, TRL-0.8, TRL-0.1, and KTC-1.2 for nitrate, nitrite, dissolved copper, dissolved iron, total selenium and dissolved zinc.

Positive effects to streamflow are defined, for five specific watercourses as increases in %MAD relative to existing conditions up to the one in two-year maximum daily flow (Q2), i.e. the bankfull discharge.

- For the Northeast Arm Creek (NEA-0.1) and the Klappan River (KLP-23.8).
- For Quarry Creek (QRY-10.9, QRY-1.9) and the Klappan River (KLP-19.1).
- For Trail Creek (TRL-0.8, TRL-0.1) and Kluea Lake (KTC-1.2).
- For Red Rock Canyon Creek (RED-1.4) and White Rock Canyon Creek (WRC-2.4).
- For Lost Creek (LST-0.1) and Coyote Creek (CYT-11.8).

Potential negative residual effects to fish health and/or fish productivity related to water quality are defined as decreases in water quality for the Project Case relative to the Permitted Case.

- Differences for dissolved copper and total selenium are due to the accelerated rate of tailings deposition and consequent earlier termination of the operations stage.
- Differences for sulphate are due to the earlier completion of pit flooding and consequent discharge of treated pit water to the TIA.

Although differences are predicted in specific years due to sequencing of Mine activities, the overall magnitude of predicted concentrations above WQG for the Project Case is the same or less than in the Permitted Case for all POPC. The potential negative residual effects for Changes to Fish Health and/or Fish Productivity (Potential Effect 1) are low to moderate in magnitude, within the LAA, long term in duration, partially reversible, continuous and of a low to moderate risk.

Negative residual effects to streamflow are defined as decreases in %MAD for the Project Case relative to the Permitted Case. The %MAD decrease for all prediction nodes is negligible, at less than 2.5% for all project phases. Differences in the modelled streamflow at all prediction nodes all Northeast Arm Creek, Quarry Creek, Trail Creek, Red Rock Canyon Creek, and Lost Cre between the Project Case and the Permitted Case may be the result of small variations in the simulated TIA seepage daylighting in the watercourse (outputs from groundwater modelling) and small variations in the simulated catchment areas to the assessment location (Lorax 2024a and 2024c; Appendix 11.5-A).

The potential negative residual effects for Changes to Fish Habitat Suitability and Availability (Potential Effect 2) are negligible to low in magnitude, within the LAA, medium term in duration, partially reversible, continuous and of a low risk.

No residual cumulative effects are reasonably foreseeable in association with the Fisheries and Aquatic Resources VC.

The performance of planned mitigations and outcomes from active monitoring programs will be reviewed regularly as part of the Annual Aquatic Effects Monitoring Report and Red Chris Monitoring Committee activities required under NRCML's EMA permit. Measures that will be undertaken to evaluate the accuracy of the predicted effects and evaluate the effectiveness of mitigations will be the same as for Surface Water - hydrometeorological and surface water quality monitoring and characterization. The on-going Aquatic Effects Monitoring Program will also support this objective.

F.1.6 Soil, Landscape, and Terrain

The Amendment Application has presented the effect assessment for the Soil, Landscape and Terrain VC. The Soil, Landscape and Terrain VC includes four subcomponents – Soil Quality, Soil Quantity, Terrain, and Landscape Features.

The Soil, Landscape and Terrain VC has known input interactions with the Surface Water VC, the Groundwater VC, and the Air Quality VC. The residual effects assessment for each of these VCs has been considered for this assessment. The findings of the Soil, Landscape and Terrain VC have been considered in the assessment for the following output interactions: the Surface Water VC, the Groundwater VC, the Fish and Aquatic Resources VC, the Vegetation and Terrestrial Ecosystems VC, the Wildlife and Wildlife Habitat VC, the Human Health VC and the Culture VC.

The LAA for the Soil, Landscape and Terrain VC encompasses the area in which natural (pre-existing) terrain hazards could directly affect Project activities, and where Project activities could directly affect soil, landscape, and terrain, including the Kluea Lake Landslide Complex. The RAA aligns with the Original Application (AMEC 2004) regional study area except for the addition of an area around the Kluea Lake Landslide Complex in the southeast of the RAA.

The background conditions for Soil, Landscape and Terrain have been summarized using information in the Original Application (AMEC 2004), and terrain mapping completed in 2004 in association with mapping of terrestrial ecosystems. The updated conditions focus on the relatively localized changes to landscape, terrain, and soil within the LAA during Mine construction and operations up to the end of 2023.

The proposed Project is largely within the limits of previous mining activity and associated disturbances. Although a number of potential interactions have been identified between Project activities and the subcomponents of this VC, the associated potential effects are limited. Mitigation measures, already proven in association with the permitted mining activities or that must be implemented to support safe and productive underground mining, are available for implementation.

Anticipated positive effects of the Project for the Soil, Landscape and Terrain VC include:

- Reduction of dust and erosion; by filling the pit with water, the risk of wind-blown dust from exposed pit walls and erosion of the pit slopes is minimized. This reduces the potential for changes to air and soil chemistry (soil quality);
- Stabilization of surrounding terrain: The presence of a waterbody can help stabilize the pit walls, reducing the likelihood of landslides within the pit shell if left dry; and,
- Utilization of subsidence zone: Presents a more natural profile, eliminating pit benches, roadways, and wall supports.

Following the application of mitigations described for each of the potential effects, there are potential residual effects of the Project for Changes to Terrain Stability (Potential effect 3) and Change in Landscape Features (Potential Effect 4).

Terrain Stability has the potential to be negatively influenced by the Project, relative to the updated conditions, because of the potential for block cave-induced seismicity due to the change in mining method. The potential negative residual effects for Changes to Terrain Stability (Potential Effect 3) are low in magnitude, within the LAA, medium term in duration, irreversible, occur as multiple regular events and are of a low risk.

Landscape Features have the potential to be negatively influenced by the Project because of the potential for block cave-induced seismicity due to the change in mining method. The potential negative residual effects for Change in Landscape Features (Potential Effect 4) are low in magnitude, within the LAA, medium term in duration, irreversible, occur as multiple regular events and are of a low risk.

No cumulative effects are reasonably foreseeable in association with the Soil, Landscape, and Terrain VC.

The existing and proposed mitigation measures at Red Chris are designed to manage potential effects on Landscape Features and Terrain Processes through a combination of engineering controls, terrain mapping, and a Cave Management Plan, with regular monitoring to detect and address unstable conditions. These measures, along with existing site-wide erosion, sediment, and soil management plans, are proven mitigation strategies that minimize direct and indirect changes on Landscape Features and Terrain Processes.

F.1.7 Vegetation and Terrestrial Ecosystems

The existing conditions for the Vegetation and Terrestrial Ecosystems VC were determined through a review of investigations completed in support of the Original Application (AMEC 2004, Bartemucci 2004, Turney et al. 2004), and an update of the conditions (using data available as of 2024) in support of this Amendment Application — the update consisted of both Terrestrial Ecosystem Mapping (TEM) revisions and changes in the conservation status of species or communities since the Original Application. Given the spatial nature of effects on the Vegetation and Terrestrial Ecosystems VC, the Project Footprint was overlain by the updated conditions to determine the potential for interactions with the Project Case. The proposed Project activities will occur directly adjacent to existing disturbed areas at the Mine or within areas permitted for future development.

A review of existing mitigation measures and standard operating practices for the Mine was used to determine if any additional mitigation was warranted to manage potential Project effects. Key existing mitigation measures to manage potential effects on the Vegetation and Terrestrial Ecosystems VC include pre-clearing surveys, soil salvage, invasive plant management and monitoring, erosion and sediment control, water quality management, maintenance of hydrological connectivity, dust management, and reclamation planning. These effects management measures are anticipated to minimize disturbances to the extent feasible for the Vegetation and Terrestrial Ecosystems VC. Accordingly, no new mitigation measures are proposed.

The potential interactions between the Project and the Vegetation and Terrestrial Ecosystems VC were reviewed and categorized based on the definitions provided in Chapter 6. Several potential interactions were identified between Project activities and the Vegetation and Terrestrial Ecosystems VC subcomponents.

Most direct interactions between the Project and the Vegetation and Terrestrial Ecosystems VC are expected to occur during the construction stage, while indirect interactions (e.g., edge effects, changes to water quantity and quality, dust deposition, and change in native plant composition) may occur through to post-closure. Quantification of the loss of vegetation and terrestrial ecosystems for the Project Case is provided. Consideration of potential effects determined that:

- Indicators for two potential effects are not expected to interact with the Project (changes in plant species of interest [rare plants], and loss or alteration of plant communities of interest).
- Indicators for three potential effects are expected to interact; however, these effects are expected to be manageable through existing mitigations and standard operating procedures (effects to wetland function, and changes in plant species of interest [invasive plant species], and loss or alteration of ecosystems [old forest ecosystems]).
- The remaining indicators for three potential effects (loss or alteration of wetland ecosystems, and changes in plant species of interest [traditional use species], and loss or alteration of ecosystems [grassland, alpine and subalpine, and riparian ecosystems]) are expected to have interactions that are incrementally small within potential new disturbance areas. As such, they are also considered manageable through existing mitigations and standard operating procedures and no additional mitigation measures are proposed to manage the potential direct effects.

Therefore, no interactions for the Vegetation and Terrestrial Ecosystems VC subcomponent were carried forward for characterization of negative residual effects for the Project (for all Project stages: construction, operations, and closure and post-closure). Correspondingly, no cumulative effects are identified for the Project. In conclusion, the Project is not expected to affect the ecological integrity of vegetation and terrestrial ecosystems in the LAA and RAA beyond manageable levels.

F.1.8 Wildlife and Wildlife Habitat

The assessment of Wildlife and Wildlife Habitat looked at the existing conditions to provide context on what was known to occur in the area before the Red Chris Mine was constructed, as well as updated conditions to reflect conditions since the Mine's inception. This included a review of investigations completed in support of the Original Application (1994–2004), as well as information collected since the Original Application (2005–2024). Since Mine construction was initiated in 2012, a variety of monitoring programs have been conducted including surveys for moose, mountain goat, Stone's sheep, bears, bats, raptors, migratory breeding birds, amphibians, and general wildlife.

The original baseline studies identified 162 wildlife species known (129) or considered likely to occur (33) within the Red Chris study area, including 126 bird species, 34 mammal species and two amphibian species (AMEC 2004). Since the commencement of wildlife monitoring at the Mine, a total of 209 wildlife species have been documented including 46 mammals, 160 birds, and three amphibians. Bird species commonly observed include a variety of upland game birds (grouse and/or ptarmigan), raptors (i.e., eagles, hawks, and owls), songbirds, corvids (crows, ravens, and jays), waterfowl (ducks, geese, and swans), and gulls and shorebirds.

Mammal species commonly identified include moose, mountain goat, Stone's sheep, red fox, grizzly bear, and black bear. Amphibian surveys and other incidental observations have confirmed western toad, Columbia spotted frog, and wood frog within the PMA; while literature suggests that long-toed salamander does likely occur in the area but has not been observed to date.

This effects assessment evaluated two potential effects for the Wildlife and Wildlife Habitat VC: loss or alteration of habitat, and mortality risk. The Project is proposing new infrastructure within or adjacent to the existing Mine components and activities. This new infrastructure and the associated activities have the potential to interact with the VC. However, all interactions identified with the Wildlife and Wildlife Habitat VC are consistent with either the current interactions at the Mine, or interactions related to permitted activities.

The Mine currently has mitigation measures and monitoring programs in place that address the potential effects related to these interactions. Therefore, none of the interactions identified were carried forward for analysis and characterization of residual effects (quantification of disturbance associated with the Project Case is provided in Appendix 11.10-B). Correspondingly, no cumulative effects from the Project are identified for the Wildlife and Wildlife Habitat VC.

F.1.9 Employment and Economy

The Employment and Economy VC includes two subcomponents: Employment and Economy. The findings of the Employment and Economy VC effects assessment have been considered in the assessment for the following output interactions, Human Health VC and Culture VC.

The LAA for the Employment and Economy VC is comprised of a larger area than the Project Footprint within which all (or most) potential direct and indirect Project effects on employment and the economy are expected to occur. The RAA includes the LAA and specific communities beyond the LAA that may experience Project-related effects associated with the workforce and transportation.

The background conditions for Employment and Economy have been summarized using information for the local and regional study areas in the Original Application. The updated conditions present updates for the period 2005 to the end of 2023, based on updated assessments since the submission of the Original Application. This includes information from the Tahltan Social Survey. The background conditions and updated conditions are relevant components that make up the existing conditions that have been used in the assessment of effects for the Employment and Economy VC.

Following the application of mitigations described for each of the potential effects, there are potential residual effects of the Project for Employment (Potential effect 1) and Economy (Potential Effect 2).

The assessment of the Employment and Economy VC evaluated the potential impacts of the Project on local employment, contracting opportunities, and the broader regional economy. The analysis relied on both qualitative and quantitative data, incorporating feedback from the Tahltan, local governments, and stakeholders including the Tahltan survey, Tahltan and Tahltan interviews, and community engagement sessions on the socio-economic baseline study.

Using the BC Input Output Model, the Project's potential economic contributions were reviewed across its various stages—construction, operation, closure and post-closure—focusing on key economic indicators such as employment creation, labour income, Gross Domestic Product (GDP) contributions, and tax contributions.

The Project is expected to enable NRCML to offer employment opportunities during the construction stage and continue to maintain employment levels through operations, likely benefiting the Tahltan, other Indigenous and local communities. These opportunities, along with the anticipated direct, indirect, and induced effects, could stimulate the regional economy. Increased labour income is projected to enhance local spending, improve living standards, and support regional economic resilience.

The Project's contributions to regional GDP growth, particularly in the mining sector, are expected to encourage business growth and support local economic diversification, potentially providing long-term economic benefits beyond the Project's operational life.

As the Project moves into the closure and post-closure stage, a reduction in employment opportunities is expected due to the decreasing need for workers. This will lead to a decline in household income for affected workers, which could reduce local spending and have an impact on the community's economic well-being.

While challenges such as labour competition and potential income inequality may arise, these impacts are anticipated to remain low. The Project includes strategies such as competitive wages and ongoing engagement with regional partners to help address these issues. Therefore, the potential negative residual effects for residual effect 1 (effects to Employment) are low in magnitude, within the RAA, short-term in duration, partially reversible, single events and with a low to moderate risk.

During construction, the increased demand for skilled labour may result in heightened competition for workers in both the LAA and RAA. This could lead to challenges for local businesses and industries, especially in resource-dependent sectors, as they may find it difficult to retain workers or fill essential positions.

To manage potential economic shifts as the Project transitions between stages, the Project emphasizes adaptive management strategies and continuous Indigenous nations and stakeholder engagement. This approach aims to maintain economic stability so that local communities can adapt and continue benefiting from the Project through its various stages.

The cumulative effects of the Project are generally anticipated to have low to moderate impacts, due to the region's adaptability to ongoing resource-driven projects. While cumulative effects may still present moderate socio-economic challenges, particularly for the Tahltan and other Indigenous communities, the overall effects will be mitigated by employment and contracting opportunities from other projects in the region.

Future engagement will facilitate the identification of potential differences by continuously reviewing both qualitative and quantitative socio-economic data. NRCML will be positioned to respond to unforeseen Project changes that require follow-up and management.

F.1.10 Infrastructure and Services

The Amendment Application evaluates whether and how the Project will affect local and regional infrastructure and services across three VC subcomponents: Housing and Accommodation, Community Services and Infrastructure, and Transportation Infrastructure and Traffic.

The findings of the Infrastructure and Services VC effects assessment are connected to the Employment and Economy VC and the Human Health VC. Linkages include changes in the regional labour market effects on demand on infrastructure and services, including health, housing, and education, etc., with implications for human health.

There are notable current challenges and/or limited capacity in terms of housing and accommodation, health and emergency response services, daycare services, waste management facilities, and road conditions and safety on Highways 37 and 37A. These issues were identified through engagement between NRCML and the TCG and Indigenous Nations, government agencies, and the public and stakeholders.

Although the Project is anticipated to interact with infrastructure and services in the local and regional areas surrounding the Project, it is expected that Project interactions with housing and waste management facilities can be managed to acceptable levels through standard operating procedures and best practices. For health and emergency response services and road infrastructure and traffic, additional mitigations to avoid and minimize Project effects on external and public services include the Health and Medical Services Plan (HMSP), Employee Assistance Program (EAP), Mine Emergency Response Plan (MERP), IBCA, Feedback and Grievance Mechanism, all of which are existing, and an Offsite Ground Transportation Plan which is a new commitment. No residual effects to these services are anticipated.

Predicted interactions and effects are contingent, in part, on low levels of in-migration. As part of the follow-up strategy, NRCML will continue to engage and collaborate with the TCG, Northern Health Authority (NHA), BC Ambulance Services, and others through existing channels, and attend to feedback provided by the public and community stakeholders. This will allow NRCML to monitor and rapidly respond to changes not anticipated in this effects assessment.

Throughout its history of operating Red Chris, NRCML has consistently demonstrated efforts to contribute to and support improvements in local infrastructure and services, including:

- Recently helping to secure $195 million in government funding for safety improvement to Highways 37 and 37A alongside the TCG and other industry partners.
- Providing $1.45 million towards improvement at the Dease Lake Airport, helping to reduce medevac response times and increasing operational capacities.
- Providing medevac assistance to local and regional emergency service providers in response to accidents, wildfires, and medical emergencies (approximately 25 incidents in the preceding 3 years).
- Supporting the Dease Lake fire department through contributions of equipment and facilitating training of Tahltan Nation Development Corporation (TNDC) and Iskut community members in fire and emergency response.

- Providing and committing funding for a variety of other public and health services including the Stewart Public Library, Kitwanga ambulance and fire station, patient monitors at the Bulkley Valley Hospital.
- Funding contributions to the Tahltan for several million of unrestricted funds through the IBCA, in addition to discretionary funding improvement and access for the Iskut Chief Louie Arena, Tahltan Drivers' Education courses, Northern Lights College Introductory Computer Course, Telegraph Creek Elders Complex, IBC Literacy Camp, Financial Literacy programming, Iskut fire recovery, and numerous recreational initiatives.

NRCML will continue to work closely and partner with the TCG to improve socio-economic outcomes, including local infrastructure and services, through the IBCA Socio-cultural Committee.

F.1.11 Human Health and Community Well-Being

F.1.11.1 Human Health

The Amendment Application has used a Rapid Health Impact Assessment (HIA) approach to evaluate the potential effects of the Project on the Human Health subcomponent via those VCs linked to the biophysical determinants of health, including air quality, surface water, groundwater, soil and sediment, country foods (wildlife, fish, vegetation) and acoustics, and through screening of available data against criteria intended to be protective of human health.

The assessment of the Human Health subcomponent involved screening available data against health-based criteria to identify potential exceedances. Relevant data were available for the Project Case for air quality and surface water, whereas soil and sediment data were only available for existing conditions. For country foods (wildlife, fish, vegetation), while fish and vegetation tissue data were available, human health-based criteria were not available for identification of exceedances for existing conditions in the Rapid HIA. Wildlife tissue data were also unavailable at this time.
The following is a summary of the findings on the changes to the biophysical determinants of health:

- **Air Quality:** After a review of predicted model concentrations, predicted model dispersion patterns and Highway traffic emissions, an increase in short-term NO_2 and DPM concentrations under the Project Case compared to Existing Conditions was observed, due to the testing of the proposed and existing emergency use diesel generators. In addition, the Project showed an improvement in concentrations for the other Criteria Air Contaminants as concentrations for the Project Case were lower than concentrations for the Existing Conditions Case, due to the Project transitioning from above ground to underground operations and reduction in mobile equipment use for material handling.
- **Surface Water:** Using surface water predictions for the Existing Conditions Case and Project Case, at this time, the Rapid HIA has identified manganese in surface water for the Project Case (Closure and Post-Closure) based on exceedances of human-health based surface water screening criteria. A similar finding was also identified for the Existing Conditions compared the Permitted Case.
- **Groundwater:** Groundwater was determined to be an incomplete pathway for human health (ingestion) as there are no known groundwater uses for human consumption within the Local Assessment Area and thus was not assessed in the Rapid HIA.

- **Soil and Sediment:** Exceedances were identified in soil and sediment for existing conditions when compared to health-based screening criteria. At this time, several soil constituents (chromium, cobalt, iron, lithium and manganese) and sediment constituents (arsenic and iron) were identified as exceedances for the Existing Conditions Case. Soil projections (offsite) were unavailable for the Project Case.
- **Country Foods (wildlife, fish, vegetation):** Human health-based screening criteria for country foods were not available to identify exceedances; however, selenium and mercury in fish tissue were identified in the Rapid HIA as constituents for further evaluation based on surface water quality and fish tissue concentration trends which are relevant to the Existing Conditions, Permitted Case, and Project Case.
- **Acoustics:** Using measured and predicted sound levels for the Existing Conditions Case and Project Case, at this time, the Rapid HIA has not identified exceedances of health-based criteria for noise for the receptor locations identified, including Iskut School.

Effects management measures identified for biophysical VCs linked to human health were noted to also be relevant to the protection of human health. No human health-specific mitigations have been recommended based on the outcomes from the Rapid HIA completed.

While the Rapid HIA approach taken is useful to identify relevant human health considerations of the proposed Project, the approach does result in considerable uncertainty. As a result of the high degree of uncertainty in the assessment, and the several exceedances of health-based environmental criteria identified relevant to Existing, Permitted, and Project Cases, several outcomes from the Rapid HIA are considered within a separate and on-going site wide Human Health Risk Assessment and detail Health Impact Assessment that NRCML continues to progress.

F.1.11.2 Community Well-Being

The Community Well-Being assessment evaluates whether and how the Project will affect the Community Well--Being subcomponent of the Human Health VC. The analysis relied on both qualitative and quantitative data, incorporating the Local Area Assessment Socio-Economic Baseline Report. The findings of the effects assessment are connected to the Employment and Economy VC, Infrastructure and Services VC and Culture VC.

There are current challenges, external factors, and limited capacity in areas such as housing and accommodation, health and community services, food security, and personal safety.
These challenges can place a burden on or influence social cohesion and individual, family, and community well-being. Predicted interactions and effects depend, in part, on low levels of temporary in-migration. Changes to community well-being are expected to be managed by existing mitigation measures in place as well as a new mitigation proposed by NRCML so that no negative residual effects are expected. Positive effects are not anticipated. As there are no negative residual effects expected, no cumulative effects are predicted.

As part of the follow-up strategy, the company will continue to engage and collaborate with the TCG, NHA, and other stakeholders through established channels. Feedback from the public and community stakeholders will be addressed so that NRCML can monitor and, if necessary, adjust mitigation measures, as is currently occurring.

F.1.12 Archaeological and Heritage Resources

The Amendment Application has presented the effects assessment for the Archaeological and Heritage Resources VC. The Archaeological and Heritage Resources VC has known input interactions with Culture, and the Soils, Landscape and Terrain VCs and known output interactions with Culture.

Existing conditions of archaeological and heritage resources within the LAA and RAA have been extensively documented in past archaeological studies, and additional sources such as traditional land use studies can provide further insight regarding as-yet undiscovered sites which may also exist within these areas. The LAA and RAA are within areas of rich archaeological heritage resources; 143 registered archeological and historical sites have been documented within the RAA, 32 of which have been previously impacted the mine development.

The LAA for the Archaeological and Heritage Resources VC is based on a standard buffer with boundaries a minimum of 50 m outside of the Project Footprint. The RAA is based on the extent of the Tahltan traditional land use study area, which assesses a 25 km buffer to the PMA. The entirety of the LAA has been subject to previous *Heritage Conservation Act* Permit coverage, implying some level of archaeological investigation has taken place throughout. Only one archaeological site is known to exist/have existed within the LAA, which consisted of one lithic artifact, which was collected at the time of discovery. As the physical footprint of the site no longer exists, it qualifies for legacy status and is no longer protected under the *Heritage Conservation Act*. For this same reason, the Project has not been assessed as having the potential to affect the site.

The Project is largely within the limits of current mining activity and associated disturbances. Although a number of potential interactions have been identified between Project activities and the subcomponents of this VC, the associated potential effects are limited. Mitigation measures, some of which are already proven in association with the permitted mining activities, are available for implementation. Assuming the existing mitigation measures are implemented appropriately; no negative effects are reasonably foreseeable in association with the Archaeological and Heritage Resources VC.

F.1.13 Culture

This effects assessment evaluates whether and how the Project will affect Tahltan Culture. As summarized as part of existing conditions (Section 11.15.6), the Tahltan continue to govern and steward Tahltan Territory according to the principles of respect, ‘ownership as belonging’, and generosity, underscoring the reciprocal relationship between people and the environment.

The Project is in an area that has been described as a ‘breadbasket’, with moose, grizzly bears, mountain goats, and other sought-after wildlife. Tahltan members continue to hunt and trap, though disruptions to wildlife and access have impacted these practices, including from the Mine. Tahltan Knowledge shows the importance of fishing to Tahltan diets and cultural life. Rainbow trout are in and around the Mine site; available information suggests that Tahltan use of the lakes surrounding the Todagin Upland Plateau is limited or absent. Recent survey data show that a majority of Tahltan members continue to harvest plants for food and medicine. Numerous harvested species are found in the alpine tundra of the Todagin Upland Plateau and surrounding valleys include myriad berries, lichens, trees, and bushes. Available data suggest that Tahltan plant harvesting for food and medicine has declined since 2007.

Tahltan Knowledge emphasizes the importance of travel and habitation on the land, with many such sites in Tahltan Territory, historically facilitating harvesting and trade. Many of these trails remain in use and occur in and around the Mine site. As described in Section 11.15.6.2, Tahltan spirituality is similarly intertwined with hunting, fishing, and gathering, as well as governance practices and principles. NRCML conservatively assumes that the Mine site and vicinities have been the site of Tahltan ceremonial and spiritual activity and understands the desire of Tahltan to remove barriers to future practice.

Transmission of Tahltan Knowledge is essential to maintaining community cohesion and the continuity of culture, and often occurs on the land. The Mine and Mine shift work is known to have had negative effects on cultural participation and thus knowledge transfer. NRCML understands that the ability to engage in a Tahltan way of life is foundational to Tahltan peaceful enjoyment of the land. It is also NRCML's understanding that Tahltan peaceful enjoyment of the land is based in the Tahltan Continuum and is therefore grounded in the ability of Tahltan members to exercise rights and practice a way of life without imposed barriers, as it once was. Mine operations have increased levels of human disturbance and decreased intergenerational access to the land, thereby increasing barriers to Tahltan peaceful enjoyment of the land.

Although the Project has the potential to interact with Tahltan access to the land and quality and quantity of resources, resulting effects are expected to be marginal given:

- The type, degree of change, and location of expected traffic and environmental changes compared to updated conditions; and
- Mitigations proposed for biophysical VCs and for infrastructure and services.

Project residual effects and cumulative residual effects are predicted for changes to the availability to take part in cultural practices and connection to land, culture, and community. Availability will be impacted by Project closure and reductions in employment and income but may be replaced by employment from other developments in the region. Connection to land, culture, and community is a largely intangible class of effects and complexly intertwined with social and ecological conditions and subjective preferences and experiences.

Therefore, this assessment conservatively concludes, in the context of the Tahltan Continuum, that even low-magnitude and spatially limited physical changes resulting from the Project may result in barriers to Tahltan members' preferred ways of connecting with land, culture, and community.

As part of the follow-up strategy, NRCML will continue to engage and collaborate with the TCG through existing channels, foremost the Socio-cultural Committee established through the IBCA. This will allow NRCML to monitor and rapidly respond to changes not anticipated in this effects assessment.

F.1.14 Summary of Mitigation Measures

The following table outlines the new mitigations described in each of the Valued Components effects assessments in the Application for an Amendment to Environmental Assessment Certificate #M05-02. This does not preclude the requirement of any of the relevant mitigation outlined in the 2004 EAC that are applicable to the Production Phase of the Block Cave Project.

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Table F-1: Summary of Proposed New Mitigation Measures and their Corresponding Effects by Project Stage

No.	New Mitigation and Monitoring Applicable to the Project	Effects	VC	Project Stages
NM-01 *See note 1*	• Additional hydrological monitoring, including Northeast Arm Creek and Lost Creek. • Additional water quality monitoring, including Northeast Arm Creek, Lost Creek , and Klappan River upstream of Northeast Arm Creek. • Enhancement of hydrological monitoring records through ongoing data collection to reduce uncertainty. • Additional hydrogeological investigations in the Northeast Valley to refine hydrogeological understanding, inputs to model updates, and to inform design of seepage interception systems. • An updated groundwater model to improve representation of changes in base flow and recalibration to measured streamflows.	Changes in streamflow	Surface Water	All stages
		Changes in surface water quality and changes to concentrations of parameters of concern in natural waterbodies		
NM-02 *See note 2*	Continuation and expansion of the seepage interception system	Interactions with surface water	Groundwater	All stages
		Changes to groundwater quality		
		Changes in streamflow	Surface Water	
		Changes in surface water quality and changes to concentrations of parameters of concern in natural waterbodies		
NM-03	Emergency use diesel generators will be tested monthly in pairs (2 generators running for approximately 30 minutes each). Pairs will not be tested within a 24-hour window (i.e. 1 pair per 24-hour period)	Changes in Ambient Concentrations of Combustion and Fugitive Gases	Air Quality	All Stages
NM-04	Implement engineering controls in the design and construction stages, such as managing drainage and making sure that the stability of any cut/fill slopes is not compromised. The use of terrain mapping and geotechnical data will inform these designs.	Terrain Processes	Soil, Landscape and Terrain	Construction
NM-05 *See note 1*	Implementation of water treatment during closure and post-closure.	Changes in streamflow	Surface Water	Closure, Post-Closure
		Changes in surface water quality and changes to concentrations of parameters of concern in natural waterbodies		

NM-06	Kluea Lake Landslide Complex:
	• Monitoring: Implementation of a monitoring program that would analyse changes to landslide movement to mitigate potential hazards during mining operations.
	• Site investigations
	  ○ in the event that either:
	  • regular Kluea Lake Landslide Complex monitoring shows signs of landslide acceleration, or
	  • block cave monitoring indicates that ground movement (including microseismic events) exceeds expected/modelled ranges (to be defined and incorporated into the cave management plan),
	  ○ Newcrest Red Chris Mining Limited will investigate to understand the extent of changes of the Kluea Lake Landslide Complex , which may inform more detailed mitigation plans.
		Terrain Processes	Soil, Landscape and Terrain	

NM-07	Offsite Ground Transportation Management Plan	Increased Traffic along Public Roads	Infrastructure and Services	All Stages
		Changes to Community Well-being	Human Health	
		Changes to connection to land, culture, and community	Tahltan Culture	

No.	New Mitigation and Monitoring Applicable to the Project	Effects	VC	Project Stages

NM-08	Subsidence Zone:
	• Subsidence prediction models: Utilize advanced modeling techniques to predict the extent and magnitude of subsidence.
	• As part of management of the block cave mining operation, tightly controlled caving techniques will be implemented to manage the rate and direction of cave propagation and reduce cave-induced seismicity.
	• Monitoring of controlled caving techniques to reduce cave-induced seismicity and to manage the rate and direction of cave propagation, including:
	  ○ Surface Monitoring: Install ground-based or satellite-based monitoring systems (e.g., GPS) to understand the extent of surface subsidence.
	  ○ Seismic Monitoring: Use microseismic monitoring to detect minor seismic events and to monitor the progress of the cave and subsidence.
	• Implementation of a Cave Management Plan to manage safety risks for personnel working in and around the active cave zone.
		Terrain Processes	Soil, Landscape and Terrain	Construction, Operations

NM-09	Workforce Transition Plan	Changes to Employment and Contracting Opportunities Changes to Regional Economy	Employment and Economy	Construction, Operations
NM-10 *See note 3*	End Land Use and Social Closure Plan	Changes to Employment and Contracting Opportunities Changes to Regional Economy	Employment and Economy	Closure

Notes:

[1] These mitigations are important components of the Project to mitigate the influence of the Mine on the environment; however, they have also been applied to the Permitted Case, and therefore are not Project-specific mitigations. The influence of applying each mitigation to the Project Case and Permitted Case is generally equivalent and cannot be quantified as they are inherent components of the Mine design in both cases; therefore, the mitigations do not change the characterization of effects relative to the Permitted Case.

[2] Further expansion of the SISs in the North and South valleys, and installation of seepage interception system in the Northeast Valley is planned for the future to improve current operational performance and in-relation to the current Permitted Case, with timing to be informed by on-going groundwater monitoring and performance monitoring of systems installed to-date. The expansion of the seepage interception system is not considered a new mitigation, but the expansion will be important prior to the increase in tailings deposition rate due to the Project. The SISs will continue to be monitored and optimized as required throughout operation and closure and post-closure.

3- End Land Use and Social Closure Plan is an existing mitigation, with a new component to consider workforce transition initiatives associated with work force reductions at end of operations.

F.2 Greenhouse Gas Emissions

The proposed change in mining method is anticipated to result in a decrease in overall GHG emissions as well as GHG intensity when compared to the existing open pit operations emissions. During the transition from open pit mining to block cave mining, an average 62% reduction in GHG emissions as well as a 61% average reduction in GHG intensity, is anticipated. When comparing the existing open pit mining operations to the proposed block cave mining method, an average 73% reduction in GHG emissions and an average 81% reduction in the change in mining method supports the Province's GHG reduction targets under the *Climate Change Accountability Act* and allows ore to be processed at Red Chris with a lower GHG intensity.

F.3 Accidents and Malfunctions

An assessment of Accidents and Malfunctions identified 10 credible worst-case scenarios linked to proposed Project activities including: uncontrolled ingress of water and solids into underground workings resulting in mud rush and flooding, underground instability resulted in the air blast induced by collapse within the cave, surface instability resulting in the surface subsidence exceeding predictions or landslides, extended power failure resulting due to storms or forest fires, and fires and explosions due to overloaded circuits or uncontrolled combustion of flammable materials.

The 10 worst-case scenarios represent different levels of risk with up to extreme consequences to the Environmental, Social, Economic, Health, and Cultural VCs. Residual risk levels were assigned, considering mitigation measures embedded in the design of the Project and operational controls to be implemented during project execution.

Existing controls at Red Chris are considered sufficient to address the failure modes associated with Project activities anticipated to be conducted on surface. New controls in alignment with the Health, Safety and Reclamation Code for Mines in BC and Newmont global standards are anticipated to be required to avoid or mitigate the risks associated with Project activities anticipated to be performed underground.

For the purposes of assessing the risks of Accidents and Malfunctions related to Project activities to be conducted underground, failure modes associated with the ingress of water and solids, underground and surface instability, extended power failures, fires, and explosions were analyzed, and resulted in the formulation of worst-case scenarios for 10 events.

Residual risks for the Environmental, Social, Economic, Health, and Cultural VCs were assessed and considered mitigation included in the design of the Project and controls to be implemented during Project execution.

Using the information that is currently available, the Project carries some residual risks that were considered material, which are associated with potential loss of life caused by ingress of solids and water, underground instability or underground fires. Advancement in the design of the Project will consider risk management programs, including the safety and sustainability in design and risk management. New risk management measures will be integrated into the existing controls and response systems at the Mine.

F.4 Effects of the Environment on the Project

The potential effects of the environment on the Project have been assessed. The risk assessment considered the likelihood and consequences of identified natural environmental events and climate hazards on all phases and activities of the Project and potentially affected VCs.

The assessment was based on scientific data, globally accepted models of climate projections, an understanding of the Project design, anticipated mitigation measures, and professional judgement. Based on the risk assessment, low-to-material-risks were identified for the Project VCs anticipated to be affected by changes in environmental and climate conditions in conjunction with Project activities, including Surface Water; Groundwater; Soil, Landscape, and Terrain; Vegetation and Terrestrial Ecosystems; Wildlife and Wildlife Habitat; and Culture.

Mitigation measures for the Project, such as Mine design and operational controls including response procedures, have been identified for each potential risk. These measures will be put in place should an event occur and to limit the escalation of risk for the Project. Although medium to material risks were identified for the Project for the construction, operation, and closure/post-closure stages, numerous engineering controls have been incorporated into the Project design as part of the Project's risk-based design approach to avoid risk exposure, where possible, or by reducing the potential consequence and likelihood of risks on Project and VCs.

Overall, the Project is deemed resilient to the current and future effects of the environment and climate change based on the design of the Project and identified mitigation measures.

G. Summary of Key Effects on Indigenous Nations and Their Rights, and Proposed Mitigation Measures

G.1 Nisga'a Nation

This Amendment Application, in accordance with Chapter 10, paragraph 8(e) and paragraph 8(f) of the Nisga'a Treaty, evaluated 36 environmental and 11 economic-social-cultural Nisga'a VCs.

Engagement with the NLG has informed the evaluation of potential effects on the Bear River estuary, a key area for Nisga'a cultural, social, and economic resources. NRCML and NLG have collaboratively identified areas of interaction between the proposed Project and Nisga'a Treaty rights and interests in the Nass Area and Nass Wildlife Area. NRCML will continue ongoing engagement with NLG to maximize benefits, support effective mitigation, and invite Nisga'a citizens and representatives to provide ongoing input on relevant matters.

The Project is not situated on Nisga'a Nation Lands, within the Nass Area, nor in the Nass Wildlife Area, however the Project's transportation corridor does traverse through the Nass Area and Nass Wildlife Area, enroute to the Stewart Bulk Terminal.

For the Chapter 10, paragraph 8(e), no Level 2 interactions were anticipated concerning biophysical VCs or Nisga'a Nation Treaty interests; therefore, no residual or cumulative effects are expected. No adverse environmental effects are expected for citizens of Nisga'a Lands, Nisga'a Lands, or Nisga'a interests.

For the Chapter 10, paragraph 8(f), two Level 2 interactions were anticipated. All level 2 interactions and their proposed mitigations to manage the effects are summarized within Chatper 5.0 Nisga'a Nation.

With the implementation of mitigation measures, management strategies, interaction assessments, communication mechanisms, and given the Project is not within the Nass area, this assessment identifies no negative residual effects on the environmental, social, cultural, or economic interests of Nisga'a Nation.

G.2 Gitanyow Nation

The Gitanyow Nation, represented by the GHC, has engaged with NRCML to pursue an Indigenous-led assessment process under the Gitanyow WSAP (Smigigyet'm Gitanyow 2020). The Gitanyow Nation's (Gitanyow) expectation is that the Gitanyow WSAP will occur independently and in parallel to the provincial EA process. The GHC indicated during initial engagement on the Project with NRCML that the Gitanyow Nation will not be party to the BC EA process. The GHC has indicated that they will not be reviewing this document, nor other publicly submitted documents as part of this Application for an Amendment Application. The scope of the Gitanyow WSAP is described within this Amendment Application.

G.3 Tsetsaut/Skii km Lax Ha

The Amendment Application presents the effects assessment of the Project on the known interests of the Tsetsaut/Skii km Lax Ha (TSKLH). The Amendment Application incorporates publicly available Indigenous Knowledge and focusses on how the Project may impact the TSKLH's ability to exercise Indigenous rights, governance, and stewardship, including adherence to their laws and customs.

As no measurable changes to indicators of interactions are expected, no potential effects on the TSKLH changes to land use experiences and practices are expected. Therefore, no negative residual effects are expected, and no cumulative effects are identified. No positive residual effects have been identified.

H. Conclusion

The Project proposes to transition to an underground block cave mining operation. The Project will continue to utilize or modify existing and permitted infrastructure associated with Red Chris.

By design, the Project will:

- utilize existing site infrastructure to limit new footprint disturbance;
- transition a substantive amount of material handing to the underground, reducing fugitive dust emissions;
- transition primary energy source for material handling to electricity reducing emissions associated with internal combustion engines including greenhouse gases; and
- employ pre-conditioning of the target ore body to constrain the lateral extent of the cave development and mitigate potential adverse effects related to the caving process.

NRCML is required to obtain an amendment to their EAC #M05-02 under Section 32(1) of British Columbia's Environmental Assessment Act (the Act). The amendment to EAC #M05-02 is also subject to the decision-making process under the Consent Agreement dated November 1, 2023, between the British Columbia Government (the Province) and the TCG. Under the Consent Agreement, the TCG and the Province will collaboratively determine the informational and amendment assessment requirements necessary to support decision-making, and the amendment to EAC #M05-02 requires the consent of the TCG.

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