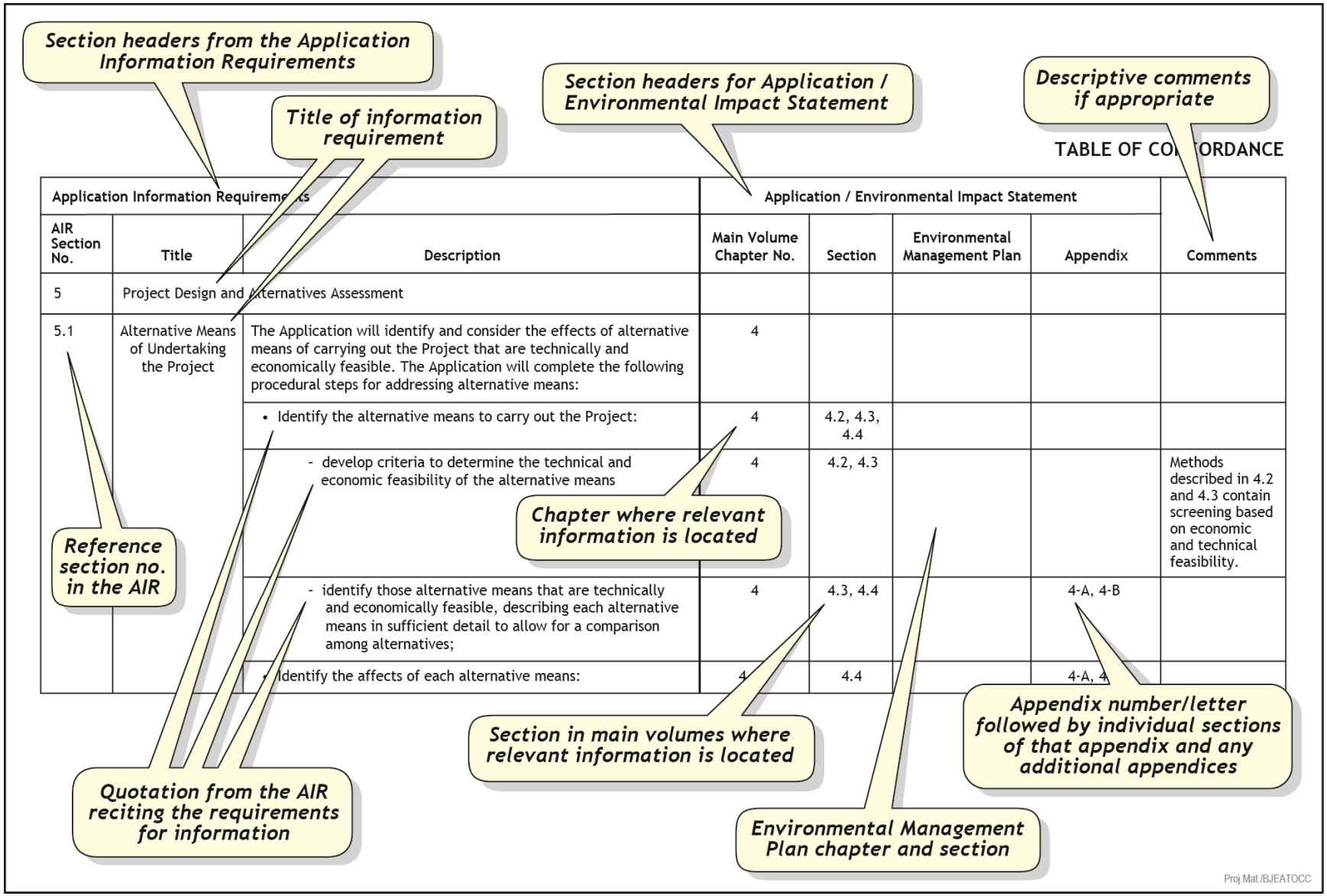
Table of Concordance

This section provides comprehensive Tables of Concordance, as required by the Application Information Requirements (AIR) and Environmental Impact Statement Guidelines (EIS Guidelines). The intent of the tables are to cross-reference the final AIR and EIS Guidelines with the Application/Environmental Impact Statement (including appendices) so that the information requested can be readily found in the Application/Environmental Impact Statement.

Each Table of Concordance is divided into two main parts: (i) *Application Information Requirements* or *Environmental Impact Statement Guidelines* and (ii) *Application/Environmental Impact Statement*, with a final column for comments. The tables present the final AIR and EIS Guidelines, respectively, as direct quotes in the *Description* column in the same order they appear in the final AIR and EIS Guidelines. Columns on the left-hand side of the tables provide the *Section No.*, *Title*, and *Description* from the final AIR and EIS Guidelines, respectively. The right-hand side of the table provides the corresponding section of the Application/Environmental Impact Statement, with columns for cross-references to *Main Volume Chapter No.*, *Section*, *Environmental Management Plan*, and *Appendix*. On the far right, there is a column for descriptive comments, if appropriate.

The figure on the following page provides an annotated illustration of the Tables of Concordance.



Application Information Requirements			Application / Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
5	Project Design and Alternatives Assessment						
5.1	Alternative Means of Undertaking the Project	The Application will identify and consider the effects of alternative means of carrying out the Project that are technically and economically feasible. The Application will complete the following procedural steps for addressing alternative means:	4				
		• Identify the alternative means to carry out the Project:	4	4.2, 4.3, 4.4			
		- develop criteria to determine the technical and economic feasibility of the alternative means	4	4.2, 4.3			Methods described in 4.2 and 4.3 contain screening based on economic and technical feasibility.
		- identify those alternative means that are technically and economically feasible, describing each alternative means in sufficient detail to allow for a comparison among alternatives;	4	4.3, 4.4		4-A, 4-B	
		• Identify the affects of each alternative means:	4	4.4		4-A, 4	

APPLICATION INFORMATION REQUIREMENTS — TABLE OF CONCORDANCE

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
	Table of Concordance	The Application will include a table of concordance indicating where the requirements of the approved AIR are found in the Application, with volume and section references as specific as possible.	Tables of Concordance				
	Preface to the Application	The Application will:					
		• indicate why the Application has been prepared and how it has been developed;	Preface				
		• indicate the Project is subject to a review under the *BC EAA* (2002a) and identify the relevant section of the Reviewable Projects Regulation;	Preface				
		• indicate the Application has been developed pursuant to the AIR approved by the EAO and confirm that it complies with the BC EAA Section 11 Order;	Preface				
		• describe the EA review process that the Project is subject to; and	Preface				
		• identify the government agencies, Aboriginal groups, and other parties involved in the development of the Application.	Preface				
		The Application will be submitted in pdf format, and with full use of hyperlinks in the Table of Contents and throughout the Application, including Appendices and supporting study reports to facilitate simple cross-referencing.					
	Executive Summary	The Executive Summary of the Application will:					
		• briefly describe the proposed Brucejack Gold Mine Project (i.e., major Project components, activities, and phases of the Project);	Executive Summary				
		• briefly describe the local and regional baseline setting of the Project area;	Executive Summary				
		• briefly describe the changes to the Project as a result of the EA process. This could include design changes and/or planning considerations that may reduce impacts of the Project on the environment Aboriginal interests, and protection of public health and safety (only applicable elements will be described with respect to the Project);	Executive Summary				
		• briefly summarize the information distribution and consultation activities that were undertaken for Aboriginal and public groups, including a summary of issues raised and responses during the pre-Application phase, and an overview of the proposed consultations on the Application;	Executive Summary				
		• provide an overview of the selected Intermediate Components (ICs) and receptor Valued Components (receptor VCs);	Executive Summary				
		• briefly summarize the key Project-related and cumulative residual effects, mitigation and monitoring measures and their significance;	Executive Summary				
		• summarize potential impacts on Aboriginal rights and title for affected First Nations;	Executive Summary				
		• summarize potential impacts on residents of Nisga'a Lands, Nisga'a Lands or Nisga'a interests as set out in the *Nisga'a Final Agreement*; and	Executive Summary				
		• summarize the Proponent's conclusions from the EA.	Executive Summary				
	Acknowledgements	The Application will acknowledge all individuals and companies involved in developing the Application, and will indicate where information has been prepared by a qualified professional and identify the qualified professional's relevant expertise.	Acknowledgements				
	Acronyms and Abbreviations	The Application will include a glossary defining technical words, acronyms, and abbreviations.	Acronyms and Abbreviations Glossary		Acronyms and Abbreviations Glossary		

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
PART A	**INTRODUCTION AND BACKGROUND**	Part A of the Application will discuss the purpose of the Application, provide an overview of the Brucejack Gold Mine Project (the Project) and the Proponent, describe the EA process, and describe the information distribution and consultation goals of the Project, and provide a Project description and an overview of Project alternatives.	1 2 3 4 5	1.3 2.1, 2.2, 2.3, 2.4, 2.5 3.1.1 4.1, 4.2, 4.3, 4.4, 4.5, 4.6 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11, 5.12, 5.13, 5.14, 5.15, 5.16, 5.17			
1	Purpose of the Application	The purpose of the Application is to demonstrate that all provincial information requirements have been addressed and are sufficient to support an EA decision. The Application will also state the following:					
		• The Project is subject to review under the British Columbia *Environmental Assessment Act* (BC EAA; 2002a). The Project constitutes a reviewable project pursuant to Part 3 of the Reviewable Projects Regulation (B.C. Reg. 370/2002), since the Project will be a new mining facility with a production capacity in exceedance of 75,000 tonnes of mineral ore per year.	2	2.1.1.1, 2.1.1.2			
2	Project Overview	This section of the Application will be written to a level of detail sufficient to convey understanding of the proponent and their guiding principles, the purpose and history of the Project, as well as the Regulatory and Policy Framework for the Project. In keeping with the key principles presented above, the use of visuals such as creative info graphics (in lieu of extensive text) will be used wherever possible to facilitate quick understanding of the Project.	1	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9			
2.1	Proponent Description		1	1.1			
2.1.1	Proponent	The Application will provide an overview of Pretium Resources Inc. (Pretivm), including:	1	1.1			
		• corporate history;	1	1.1.1			
		• Pretivm's policies on sustainable resource development; and	1	1.1.3, 1.3			
		• Pretivm's management team.	1	1.1.2			
2.1.2	Consultants	The Application will identify, where applicable, information in the Application that has been prepared by a qualified professional and information related to the qualified professional's experience.	Acknowledgements				
		The Application will identify other parties that contribute to the Application and outline the relevant areas of contribution.	Acknowledgements				
2.2	Guiding Principles	The Application will provide an overview of key guiding principles that were used to guide the Project design and EA process.	1	1.2			
2.2.1	Local and Aboriginal Traditional Knowledge	The Application will describe the efforts to obtain local and traditional knowledge as part of the EA process and will reference the information in the Application if it is not confidential. If traditional knowledge is considered confidential by an Aboriginal group, the Application will identify how the information was obtained and an explanation as to why the information has not been provided in the Application. Agreement will be obtained from Aboriginal groups regarding the use of traditional knowledge information in the Application.	1 3 26	1.2.2, 1.2.3, 1.2.4 26.3.3, 26.3.5		3-D, 3-I	
2.2.2	Public Consultation	The Application will describe the principles guiding public consultation.	1 3	1.2.3 3.1.1			
		The proponent will provide current information about the project to the public and especially to the communities likely to be most affected by the project.	1 3	1.2.3, 1.2.4 3.7.1		3-I	
2.3	Purpose of the Project	The Application will discuss the purpose of the Project from the perspective of the Proponent.	1	1.3			
		If the objectives of the Project are related to or contribute to broader private or public sector policies, plan, or programs, this information will also be included.	1	1.3			
2.4	Project Location, Access, and History	The Application will describe the location of the Project in proximity to surrounding communities and provide additional access details. Maps will be used to identify the Project location.	1	1.4 Figures 1.4-1 to 1.4-4			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
2.5	Project Tenure	The Application will identify the Proponent's mineral tenures in the Project area, including a table listing the tenures and map showing the location of tenures.	1	1.5 Tables 1.5-1, 1.5-2 Figures 1.5-1, 1.5-2			
2.6	Regional Area	The Application will:					
		• identify permanent communities and temporary residences in the regional area;	1	1.6			
		• identify Crown lands (including provincial and federal lands) in the region;	1	1.6			
		• identify private (fee simple) land in the region;	1	1.6			
		• identify Indian reserves and asserted Aboriginal traditional territories in the region;	1	1.6			
		• describe Nisga'a Lands, the Nass Wildlife Area, the Nass Area, including the relevance of these boundaries to Nisga'a interests in fish and wildlife;	1	1.4.2, 1.4.3, 1.6			
		• describe the Cassiar-Iskut Stikine Land and Resource Management Plan (CIS LRMP) and Nass South Sustainable Resource Management Plan (Nass South SRMP), and local government Official Community Plans where appropriate;	1	1.6 Figure 1.6-1			
		• describe designated environmentally sensitive areas, such as national, provincial and regional parks, ecological reserves, conservation lands, wildlife management areas or sanctuaries, designated fisheries areas, federally listed wetlands and habitats of provincially or federally listed species at risk, and other sensitive areas in the region;	1	1.6			
		• describe Crown-granted tenures held by other parties including mineral, forestry, range, oil and gas, trapping, guide outfitting, commercial recreation, an water in the vicinity of the Project and overlapping with the Project footprint;	1	1.6 Table 1.6-1			
		• identify relevant existing or proposed monitoring programs or regional studies, including other projects where environmental monitoring data has been collected to support the EA process (as available); and	1	1.6 Figure 1.6-2 Table 1.6-2			
		• identify future developments which are reasonably foreseeable and sufficiently certain to proceed.	1	1.6 Table 1.6-2 Figure 1.6-2			
		The information identified above will be supported by the following maps at appropriate scales:					
		• a regional map;	1	Figure 1.6-2			
		• a watershed map; and	10	Figure 10.3-2			
		• map(s) depicting land and resource management plans, local government boundaries, parks and protected areas, conservation lands, Crown land tenures, federal lands, private lands, etc.	1	Figures 1.6-1, 1.6-2, 1.4-2, 1.4-3, 1.4-4			
2.7	Project Scope		1	1.7			
2.7.1	Provincial Scope of the Project	The Application will describe the scope of the provincial EA, as defined in the Section 11 Order issued on July 4, 2013.	1	1.7.1			
		Pursuant to the Section 11 Order developed by the EAO and issued on July 4, 2013, the provincial scope of the Project includes the following on-site and off-site components:	1	1.7.1			
		• underground mine and ancillary components and activities;	1	1.7.1			
		• mineral processing facility and ancillary components and activities;	1	1.7.1			
		• waste management and ancillary components and activities, including waste rock and tailings;	1	1.7.1			
		• water management and ancillary components and activities; and	1	1.7.1			
		• other infrastructure and ancillary components and activities, including modification or expansion of the existing exploration road from Highway 37 to the mine site, transportation from Highway 37 to the mine site, transmission line and power supply, camps and offices, truck shop, fuel storage, explosives, and concentrate storage.	1 6	1.7.1 6.4.3, 6.5.2, 6.9.1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
2.7.1 *(cont'd)*	Provincial Scope of the Project *(cont'd)*	Effects from upgrades to the existing exploration access road (if required), as well as from its use during the Construction, Operation, Closure, and Post-closure phases of the Project will be described in the Application.	1	1.7.1			
		Two transmission line options are being considered for the Project: a South Option that would tie into the provincial power grid at the Long Lake Hydroelectric Project and an East Option which would tie into the Northwest Transmission Line. The South Option has been identified as the preferred alternative. Both options will be considered in the Alternative Means of Undertaking the Project (see Section 5.2).	4 5	4.3.3 5.13.2			
2.8	Project Schedule	The Application will include a description of the Project schedule, including the Construction, Operation, Closure, and Post-closure phases and activities and works associated with each phase.	1 5	1.8 5.7, 5.8, 5.15			
		A chart showing a detailed timeline of the Project schedule will be provided in the Application.	1	Figure 1.8-1			
2.9	Project Benefits	The Application will provide a summary of the benefits of the Project.	1	1.9			
2.9.1	Economic Feasibility	The Application will provide the following information:	1	1.9.3			
		• initial capital construction cost estimates, including:	1	1.9.3.4			
		– a breakdown of major cost categories (e.g., equipment and infrastructure);	1	1.9.3.4 Table 1.9-7			
		– a description of the planned use of local facilities and whether these are currently underused;	1	1.9.3.4			
		• estimated operating costs over the life of the Project (for land, buildings and equipment), including:	1	1.9.3.5			
		– estimated annual operating costs (excluding labour);	1	1.9.3.5 Tables 1.9-8, 1.9-9			
		– an indication of how the costs are measured (i.e., current dollar value or the use of Net Present Value);	1	1.9.3.5, 1.9.3.3			
		– estimated costs for the Closure and Post-closure phases (i.e., decommissioning, reclamation, care and maintenance, and abandonment activities); and	1 30	1.9.3.6 Table 1.9-10 30.10			
		• assumptions and reference information sources related to the above information.	1 References	1.9.4.1, 1.9.3 References			
2.9.2	Revenues	The Application will provide the following information:	1	1.9.4			
		• contractor supply services estimates, including:	1	1.9.4.2			
		– a list of the major types of businesses/contractors that will benefit from the overall Project, broken down at the local, provincial, and national level;	1	1.9.4.2, 1.9.4.3 Tables 1.9-16, 1.9-22			
		– an estimate of the value of supply-service contracts expected for both the Construction and Operation phases of the Project;	1	1.9.4.2, 1.9.4.3 Tables 1.9-16, 1.9-17, 1.9-22, 1.9-23			
		– a description of the Proponent's local purchasing strategy (if any).	1	1.9.4.5			
		• estimates of annual government revenues for the Construction and Operation phases of the Project, including:	1	1.9.4.2, 1.9.4.3 Tables 1.9-13, 1.9-14, 1.9-15, 1.9.19, 1.9-20, 1.9-21			
		– property tax, if applicable;	1	1.9.4.1, 1.9.4.3			
		– Regional District, if applicable (taxes, other);	1	1.9.4.2, 1.9.4.3 Tables 1.9-14, 1.9-20			
		– provincial (income tax, sales tax, lease, license and tenure, royalties, and mineral tax); and	1	1.9.4.2, 1.9.4.3 Tables 1.9-14, 1.9-20			
		– federal (income tax, General Sales Tax (GST); payroll taxes).	1	1.9.4.2, 1.9.4.3 Tables 1.9-14, 1.9-20			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
2.9.2 *(cont'd)*	Revenues *(cont'd)*	• the Project's contributions to community development; and	1	1.9.4.5			
		• assumptions and reference information sources for the above information.	1 References	1.9.4, 1.9.4.1 Table 1.9-11 References			
2.9.3	Employment	The Application will provide the following information:	1	1.9.5			
		• employment estimates, including:					
		– direct employment, stated in number of person years and full time equivalents by major job category (e.g., labour, management, business services) for each stage of the Project including Construction, Operation, and Closure phases, distinguishing among full-time, part-time and seasonal workers;	1	1.9.4.1, 1.9.5.1, 1.9.5.2 Tables 1.9-25, 1.9-26, 1.9-30, 1.9-31			
		– an estimate of wage levels, by major job category, for the Construction and Operation phases;	1	1.9.5.1, 1.9.5.2 Tables 1.9-26, 1.9-27, 1.9-31, 1.9-32			
		– breakdown of the number of people that will be hired locally, provincially, nationally or internationally (where applicable);	1	1.9.5.1, 1.9.5.2			
		– potential for the Proponent to use currently underutilized local human resources;	1 19	1.9.5.4 19.5.1.1			
		– description of relevant employment policies/practices (i.e., a local hiring strategy); and	1 19	1.9.5.4 19.5.1.1			
		– an estimate of indirect employment (i.e., employment in industries that supply goods and services used to produce an industry's output or to be consumed by individuals) during the Construction and Operation phases of the Project. Assumptions relating to industry specific multipliers or other multipliers used will be included; and	1	1.9.4.1, 1.9.5.1, 1.9.5.2 Tables 1.9-11, 1.9-25, 1.9-27 to 1.9-30, 1.9-32 to 1.9-34			
		– assumptions and reference information sources for the above information.	1 References	1.9.4.1, 1.9.5 References			
3	Assessment Process	This chapter of the Application will describe the assessment process, including descriptions of:	2	2.1			
		• provincial EA requirements;	2	2.1.1, 2.3.2			
		• the coordinated provincial and federal EA process;	2	2.2			
		• provincial permitting requirements;	2	2.3.1			
		• transboundary regulatory issues; and	2	2.4			
		• EA provisions of the *Nisga'a Final Agreement* (NFA).	2	2.5			
3.1	Provincial and Federal Environmental Assessment Requirements						
3.1.1	British Columbia *Environmental Assessment Act*	The Application will describe the EA process including the BC *EAA* including the Reviewable Projects Regulation (B.C. Reg. 370/2002), Public Consultation Policy Regulation (B.C. Reg. 373/2002), Concurrent Permitting Regulation (B.C. Reg. 371/2002); and the role of the EA Certificate.	2 3	2.2.1.1, 2.2.1 3.2.1			
3.1.2	Environmental Assessment Process – British Columbia	The Application will provide a brief description of the pre-application and application phases of the environmental assessment (EA) process in BC. Figures will be provided. Key information will include:	2	2.2.1.1, 2.2.1.2 Figures 2.2-1, 2.2-2			
		• A Project EA schedule identifying EA milestones and deliverables, including issuance of Section 10 and 11 Orders, Working Group meetings, public comment periods, and open houses;	2	2.2 Table 2.2-2 Figures 2.2-1, 2.2-2			
		• An EA Working Group membership list of government agencies, Aboriginal groups, and other stakeholders involved in the EA;	2	2.2.3			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
3.1.2 *(cont'd)*	Environmental Assessment Process – British Columbia *(cont'd)*	• A definition of the scope of the Project pursuant to the Project's Section 11 Order;	2	2.2.1.1, 2.2.2			
		• The AIR review process;	2	2.2.1.1, 2.2.1.2			
		• A summary of consultations with public and other key stakeholders;	3	3.7		3-I, 3-J	
		• A summary of consultations with federal, provincial and local government representatives;	3	3.6, 3.7, 3.7.1.5		3-G, 3-H, 3-I, 3-J	
		• A summary of consultations with Aboriginal groups; and	3	3.5		3-D, 3-E	
		• A brief description of the public and Aboriginal issues and concerns identified to date, including those comments submitted during the review of the AIR and proposed consultation activities for the Application review phase.	3	3.5.2.4, 3.5.3, 3.6.1.1, 3.7.1.3, 3.7.2		3-E, 3-J	While dates of Aboriginal Groups' comments on the DAIR are discussed in Section 3.5.2.4, actual comments are not summarized as these were tracked in separate tables submitted to EAO (this is noted in Section 3.5.2.4).
		The Application will reference any guidance documents used to describe the provincial assessment; these may include:					
		• Environmental Assessment Office User Guide (BC EAO 2010a); and	2	2.1.1.6			
		• Guide to Involving Proponents when Consulting First Nations in the Environmental Assessment Process (BC EAO 2013).	2	2.1.1.6			
3.1.3	Coordinated Provincial – Federal EA Process	The Application will discuss cooperation mechanisms under *CEAA 2012*, including coordination as per Section 18 of *CEAA 2012*. Coordination activities are anticipated to follow the now expired *Canada - British Columbia for Environmental Assessment Cooperation* (2004). Process milestones where a coordinated approach was implemented between the EAO and CEAA will be described.	2	2.3, 2.3.1, 2.3.2			
3.1.4	Provincial Authorization	The Application will provide a list of applicable provincial and federal licenses, permits and/or approvals required for the construction, operation, decommissioning and closure, and post-closure of the Project, and the associated responsible regulatory agency.	2	2.3 Tables 2.3-1, 2.3-2			
		If applicable, the Application will describe the concurrent permitting process outlined in the Project's Section 11 Order under the Concurrent Approval Regulation (B.C. Reg. 371/2002). This information will include a list of concurrent provincial authorizations being sought for the Project (i.e., permit name and enabling legislation). Authorizations under the following enactments may be candidates for concurrent permitting:	2	2.3 Table 2.3-1			
		• *Environmental Management Act* (2003);	2	2.3; Table 2.3-1			
		• *Water Act* (1996h);	2	2.3; Table 2.3-1			
		• *Drinking Water Protection Act* (1996a);	2	2.3; Table 2.3-1			
		• *Forest Practices Code of BC Act* (1996l);	2	2.3; Table 2.3-1			
		• *Heritage Conservation Act* (1996m);	2	2.3; Table 2.3-1			
		• *Land Act* (1996c);	2	2.3; Table 2.3-1			
		• *Mineral Tenure Act* (1996d);	2	2.3; Table 2.3-1			
		• *Mines Act* (1996e);	2	2.3; Table 2.3-1			
		• *Mining Right of Way Act* (1996f);	2	2.3; Table 2.3-1			
		• *Public Health Act* (2008a);	2	2.3; Table 2.3-1			
		• *Transportation Act* (2004a);	2	2.3; Table 2.3-1			
		• *Motor Vehicles Act* (1996g); and	2	2.3; Table 2.3-1			
		• *Wildfire Act* (2004b).	2	2.3; Table 2.3-1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
3.2	Transboundary Effects	The Application will describe any permits required for transboundary issues, or will provide justification if a permit is not required. Permits may be required under the *International River Improvements Act* (1985d).	2	2.4			
		The Application will discuss participation of US state and federal agencies on the EA working group, summarize any issues raised, and provide responses to those issues.	2	2.4			
		Potential transboundary environmental effects will be assessed in the Application.	2 13 14	2.4 13.6.2 14.4.2			
3.3	Nisga'a Final Agreement	The Application will provide a description of the EA provisions under the *Nisga'a Final Agreement* (NFA) related to Chapter 10, 8(e) and 8(f). See Section 4.3.1 for a summary of the relevant NFA sections to be described and considered in the application.	2 27	2.6 27.1.2			
4	Information Distribution and Consultation	This section of the Application will describe information distribution and consultation activities for the pre-application and application review phases of the EA process with Aboriginal Groups, Treaty Nations, the public, and government agencies (including the EA Working Group).	3	3.1 to 3.7			
4.1	Introduction	This section will introduce the Proponent's information distribution and consultation efforts, to date and proposed, with Aboriginal and non-Aboriginal communities with respect to the Project.	3	3.1			
4.1.1	Provincial Requirements	This section will describe the provincial requirements surrounding public and Aboriginal consultation, including consultation requirements outlined in the Project's Section 11 Order.	3	3.2.1			
4.1.2	Information Distribution and Consultation Objectives	The Application will state the objectives of information distribution and consultation (engagement) activities (to-date during the pre-application phase and proposed during the Application phase). These objectives may include:	3	3.1.1, 3.5.4, 3.5.5, 3.6.3, 3.7.3			
		• share information about the Project and associated environmental and socio-economic baseline studies;	3	3.1.1, 3.5.4, 3.5.5, 3.6.3, 3.7.3			
		• obtain and consider feedback;	3	3.1.1, 3.5.4; 3.5.5, 3.6.3, 3.7.3			
		• document issues raised; and	3	3.1.1, 3.5.4, 3.5.5, 3.6.3, 3.7.3			
		• comply with provincial and federal requirements related to public and Aboriginal consultation, including the Section 11 Order.	3	3.2.1, 3.2.2, 3.5.4, 3.5.5, 3.6.3, 3.7.3			
		The Application will summarize the issues raised during consultation activities, and the Proponent's responses to these issues. The information gained and issues raised during consultation will be used to inform Project changes to enhance positive effects and avoid or mitigate potential adverse effects, where feasible.	3	3.5.3, 3.6.2, 3.7.2		3-E, 3-H, 3-J	
4.1.3	Project Materials and Information Dissemination	The Application will describe the Project materials developed by the Proponent, as well as information dissemination practices/events, for the purposes of Aboriginal and public consultation activities. These may include websites, community meetings and open houses, Project posters, infographics and infosheets, feedback forms, videos, and press releases.	3	3.4, 3.7.1.3, 3.7.1.4		3-A, 3-B, 3-C, 3-F	
		The methods used to track issues (e.g., databases, spreadsheets and tracking tables) will be presented. An issues tracking table will be developed for each of the following groups:	3	3.5.3, 3.6.2, 3.7.2			
		• the public;	3	3.7.2		3-J	
		• Aboriginal groups;	3	3.5.3		3-E	
		• Nisga'a Nation; and	3	3.5.3		3-E	
		• government (including local, provincial, and federal).	3	3.6.2, 3.7.2		3-H	
4.2	Aboriginal Information Distribution and Consultation	The Application will describe consultation requirements pursuant to the Project's Section 10 and 11 Orders, and information distribution and consultation activities undertaken at the time of Application submission.	3	3.5			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
4.2 *(cont'd)*	Aboriginal Information Distribution and Consultation *(cont'd)*	All consultation activities with the Aboriginal groups will be conducted according to an approved Aboriginal consultation plan. This information will include maps describing these groups' asserted territories in relation to the Project.	3	3.5.2.1		3-K, 3-L	
4.2.1	Pre-Application Consultation with Aboriginal Groups	The Application will describe the Proponent's obligation for pre-Application consultation with Aboriginal groups under the Project's Section 11 Order.	3	3.2.1, 3.5.2.1			
		The Application will describe consultations with Aboriginal groups during the pre-Application stage of the EA process. This information may include, where applicable, any EA capacity funding agreements, review of any EA documents (e.g., dAIR, consultation summary report), workshops and training, employment for members of Aboriginal groups, site visits, community meetings, sponsorship, and community investment. Where appropriate, information will be incorporated from Aboriginal TK/TU studies.	3	3.5.2			
4.2.2	Issues Raised by Aboriginal Groups and Responses	The Application will summarize the issues raised by Aboriginal groups during consultation activities, and the Proponent's responses to these issues. Issues will be compiled, where applicable, from comments provided by other Aboriginal groups at working group meetings, individual meetings between the Proponent and Aboriginal groups, written comments on the drafts of the AIR, annual baseline study work plans, community meetings/focus groups, and correspondence.	3	3.5.3		3-E	
4.2.3	Proposed Plan for Consultation with Aboriginal Groups during the Application Review	All Aboriginal consultation activities will be conducted according to an Aboriginal Consultation Plan approved by the BC EAO. The Application will:	3	3.5.4, 3.5.5		3-K, 3-M	
		• summarize the pre-application stage consultation activities undertaken with Aboriginal groups;	3	3.5.2			
		• describe how the Application will be made available to Aboriginal groups;	3	3.5.4, 3.5.5			
		• describe consultations proposed during the Application stage with Aboriginal groups; and	3	3.5.4, 3.5.5			
		• include a tracking table, to summarize and provide responses to the issues raised during consultations with Aboriginal groups.	3	3.5.4, 3.5.5		3-E	
		Consultation activities will be undertaken commensurate with the depth of consultation identified by the EAO and the Agency.	3	3.5.4, 3.5.5			
4.3	Nisga'a Nation Information Distribution and Consultation	The Application will describe consultation requirements pursuant to Chapter 10 of the *Nisga'a Final Agreement* (NFA), and information distribution and consultation activities undertaken to-date. All Nisga'a nation consultation activities will be conducted according to an approved Nisga'a Nation Consultation Plan.	3	3.5.1			
4.3.1	Chapter 10 of the *Nisga'a Final Agreement*	The Application will describe the relationship of the Project location and activities to Nisga'a Lands, the Nass Wildlife Area, the Nass Area, and Nisga'a fee simple lands.	3	3.5.1 Figure 3.5-3			
		Cross reference will be made to the description of the assessment process guided by the NFA (as described in Section 3.3 of the AIR).	3	3.5.1, 3.5.2.7			
		The Application will describe how the Proponent has assisted the Crown in meeting its obligations under paragraphs 6 through 10 of the NFA. These measures will include the following:	3	3.5.1 to 3.5.3, 3.5.5			
		• carry out and report on the steps taken under paragraph 6 of Chapter 10 of the NFA;	3	3.5.1 to 3.5.3, 3.5.5			
		• provide the information described here, or other written notices provided by Canada and British Columbia, necessary for the Province and Canada to conduct the assessments required by paragraphs 8(e) and 8(f) of Chapter 10 of the NFA, including information or recommended measures to prevent or mitigate environmental adverse effects on residents of Nisga'a Lands, Nisga'a Lands, or Nisga'a interests; and	3	3.5.1 to 3.5.3, 3.5.5			
		• provide information regarding any agreements between the Proponent and Nisga'a Nation or a Nisga'a village concerning the effects of the Project so that the Province and Canada can take those agreements into account as required by paragraph 8(i) of Chapter 10 of the NFA.					

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4.3.2	Pre-Application Consultation with Nisga'a Nation	The Application will describe consultations with NLG during the pre-Application stage of the EA process. This information may include, where applicable, any EA capacity funding agreements, Nisga'a Nation participation in EA working groups, Nisga'a Nation review of any EA documents (e.g., dAIR, Nisga'a consultation summary report), workshops and training, employment for Nisga'a citizens, site visits, community meetings, sponsorship, and community investment.	3	3.5.2, 3.5.3			
4.3.3	Nisga'a Economic, Social, Cultural Impact Assessment	To address the requirements of Chapter 10, paragraph 8(f) in the NFA, the Proponent will prepare a Nisga'a Economic, Social, Cultural Impact Assessment (ESCIA) based on guidance from the NLG and in consultation with the EAO and the CEA Agency. The Application will describe the consultation activities undertaken by the Proponent in preparation of the Nisga'a ESCIA, including consultation with Nisga'a Nation, EAO, and the Agency.	3 27	3.5.2.7 27.3, 27.5			
4.3.4	Issues Raised by Nisga'a Nation and Responses	The Application will summarize the issues raised by the NLG during consultation activities, and the Proponent's responses to these issues. Issues will be compiled, where applicable, from comments provided by NLG at working group meetings, individual meetings between the Proponent and NLG, written comments on the dAIR, annual baseline study work plans, community meetings/focus groups, and correspondence.	3	3.5.3		Table 3-E3	
4.3.5	Proposed Plan for Consultation with Nisga'a Nation during the Application Review	The Application will describe consultation planned with Nisga'a Nation during the Application review stage and will follow the workplan and requirements of the EAO Section 11 Order.	3	3.5.5			
4.4	Government Agency and Local Government Information and Distribution	The Application will:					
		• summarize the consultation activities undertaken with government agencies and local governments during the pre-application phase;	3	3.6.1			
		• describe how the Application will be made available to government agencies and local governments;	3	3.6.3			
		• describe consultations proposed during the Application stage with government agencies and local governments; and	3	3.6.3, 3.7.3			
		• include a tracking table to summarize comments and provide responses to the issues raised during government agency and local government consultations.	3	3.6.2, 3.7.2		3-H, 3-J	
4.5	Public and Stakeholder Information Distribution and Consultation	The Application will:					
		• summarize consultation activities undertaken with key stakeholders (e.g., other tenure holders) and the public during the pre-application phase, which may include a description of the methods used to conduct consultation activities, for example:	3	3.7.1		3-I	
		– open houses;	3	3.7.1.3			
		– direct meetings;	3			3-D, 3-G, 3-I	
		– correspondence;	3			3-D, 3-G, 3-I	
		– telephone interviews;	3	3.7.1.4			
		– earned media;	N/A				
		– website;	3	3.7.1			
		– newspaper advertisements; and	3	3.2.3.1		3-A	
		– project information materials.	3	3.7.1		3-B, 3-C	
		• describe how the Application will be made available to key stakeholders and to the public;	3	3.7.3			
		• describe consultations proposed during the Application stage with the public; and	3	3.7.3			
		• include a tracking table to summarize and provide responses to the issues raised during public consultation activities.	3			3-J	

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4.5 *(cont'd)*	Public and Stakeholder Information Distribution and Consultation *(cont'd)*	The Application will include a report on the results of implementation of the Public Consultation Plan, including the following:	3	3.7.1		3-M, 3-N	
		• Background Information:					
		– identifying local governments, residents, property owners, other rights holders, potentially impacted by the proposed Project;	3	3.7.1.1, 3.7.1.4			
		– maps of the municipalities, private land, tenures/authorizations, or residents with respect to the proposed Project; and	3	3.7.1.4 Figure 3.7-1			
		– about each potentially affected municipality or stakeholder group;	3	3.7			
		• Public Consultation:					
		– summarizing past and planned consultation activities;	3	3.7.1, 3.7.3			
		– summarizing any proposed changes to the consultation plan as a result of feedback from municipalities, stakeholders or individuals or experience from consultation to date; and	N/A			3-M, 3-N	
		– describing key issues raised that are relevant to the EA and the responses to those issues;	3	3.7.2, 3.7.1.3		3-J	
		• Summary Table					
		– identifying concerns raised by the public that may be impacted by the proposed Project and the measures to avoid, reduce or mitigate those impacts; this information must be provided in the form of a table.	3 35	35.2		3-J	
5	Project Design and Alternatives Assessment						
5.1	Alternative Means of Undertaking the Project	The Application will identify and consider the effects of alternative means of carrying out the Project that are technically and economically feasible. The Application will complete the following procedural steps for addressing alternative means:	4				
		• Identify the alternative means to carry out the Project:	4	4.2, 4.3, 4.4			
		– develop criteria to determine the technical and economic feasibility of the alternative means;	4	4.2, 4.3			Methods described in Sections 4.2 and 4.3 contain screening based on economic and technical feasibility.
		– identify those alternative means that are technically and economically feasible, describing each alternative means in sufficient detail to allow for a comparison among alternatives;	4	4.3, 4.4		4-A, 4-B	
		• Identify the effects of each alternative means:	4	4.4		4-A, 4-B	
		– identify those elements of each alternative means that could produce effects in sufficient detail to allow a comparison with the effects of the Project; and	4	4.4 (4.4.1.3, 4.4.2.3, 4.4.3.3, 4.4.4.3, 4.4.5.3, 4.4.6.3, 4.4.7.3), 4.5		4-A, 4-B	
		– the effects referred to above include both environmental effects and potential adverse impacts on potential or established Aboriginal or Treaty rights and related interests;	4	4.2.2.1, 4.4 (4.4.1.3, 4.4.2.3, 4.4.4.3), 4.6			
		• Identify the preferred means:	4	4.2, 4.4, 4.5			
		– identify the preferred means based on the relative consideration of effects, and of technical and economic feasibility; and	4	4.4 (4.4.1.4, 4.4.2.4, 4.4.3.4, 4.4.4.4, 4.4.5.4, 4.4.6.4, 4.4.7.4)			
		– determine criteria to examine the effects of each remaining alternative means to identify the preferred means.	4	4.2.2			

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		The Application will include, as a minimum, the following Project components in the alternative means analysis:	4				
		• ore production technologies (e.g., underground extraction method; ore processing);	4	4.3.3, 4.3.4, 4.4.3, 4.4.4			
		• mine waste disposal including rock, paste, and tailing disposal; contaminated water treatment; tailings pipeline;	4	4.3.5, 4.3.6, 4.4.5, 4.4.6, 4.4.7			
		• transportation route and mode for shipping concentrate, materials, and personnel (road vs. rail); and	4	4.3.1, 4.3.2, 4.4.1			
		• energy sources and transmission line options.	4	4.3, 4.4.2			
		For each of the above listed alternatives, the Application will describe and assess:	4				
		• key issues, including, where applicable, those raised by First and Treaty Nations, in considering the alternative means of the Project;	4	4.3, 4.4			
		• an analysis of the alternative means of carrying out the Project that are technically and economically feasible, including the closure implications of each option;	4	4.3 (4.3.3.2, 4.3.6.1), 4.4 (4.4.4.3, 4.4.5.2, 4.4.6.3)			
		• potential environmental and social effects, where applicable; and	4	4.4, 4.5			
		• the rationale for selecting the preferred alternative.	4	4.2, 4.3, 4.4, 4.5			
5.2	Summary of Project Design Changes	The Application will include a summary table of the design changes that have been made to the Project since originally proposed, including the benefits of these changes to the environment, Aboriginal groups, and the public.	4	4.6 Table 4.6-1		N/A	
6	Project Description	This section of the Application will provide a detailed Project description, including the components, activities, and phases of the Project (Construction, Operation, Closure, and Post-closure).	5	5			
		This information will be provided in sufficient detail to support the prediction and assessment of potential environmental, economic, social, heritage, and health effects of the Project.	5	5			
		The Application will include one or more site map(s) identifying relevant features of the Project footprint (e.g., tailing management facility, waste rock storage facility, temporary ore stockpile(s), portals and shafts, general outline of underground workings, diamond drill holes, process plant/paste backfill plant/warehouse/truck shop/laboratory/mine dry/administrative building, access road, airstrip, transfer station, transmission line).	5 6	5.1 Figures 5.1-1, 5.1-2, 6.4.2		5-A	
		The use of visuals such as creative infographics (in lieu of extensive text) will be used wherever possible to facilitate quick understanding of the Project.	5	Figures 5.1-1 to 5.17-1			
		The Application will reference that the mine plan will be developed in accordance with the *Health, Safety and Reclamation Code for Mines in British Columbia* (BC MEMPR 2008).	5	5.1.1			
6.1	Introduction	The Application will provide a brief introduction to the Project, including an overview of Project geography and geology, a quick description of major mine components (e.g., underground mine, mine access and power), the Project footprint, and key engineering challenges.	5	5.1, 5.4 Figures 5.1-1, 5.1-2			
6.2	Location and Current Access	The Application will describe the Project location (latitude and longitude co-ordinates or equivalent), as well as the current site access.	5	5.2			
6.3	Mineral Resources	The Application will provide the resource estimates for the Valley of Kings (VOK) Zone and the West Zone (WZ), which will be the targeted mineral zones of the Project, including a high-level summary of those presented in the Project NI 43-101 Technical Report.	5	5.5 Table 5.5-1			
6.4	Regional and Project Geology and Mineralization	The Application will include a description of the Proponent's mineral tenures, as well as regional geology (stratigraphy, structure) and property geology (stratigraphy, structure) and a description of the resource.	1 5	1.5 5.3, 5.4, 5.5		5-A	
6.5	Geochemical Characterization	The following information on site geochemistry will be presented in this section of the Application:	5	5.6	29.10	5-B	
		• assessment and prediction of metal leaching/acid rock drainage (ML/ARD) potential, according to the following policy and guidelines documents:	5	5.6	29.10	5-B	

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6.5 *(cont'd)*	Geochemical Characterization *(cont'd)*	– *Policy for Metal Leaching and Acid Rock Drainage at Minesites in British Columbia* (BC MEM and BC MELP 1998);	5	5.6	29.10	5-B	
		– *Guidelines for Metal Leaching and Acid Rock Drainage at Minesites in British Columbia* (Price and Errington 1998);	5	5.6	29.10	5-B	
		– *List of Potential Information Requirements in Metal Leaching/Acid Rock Drainage Assessment and Mitigation Work* (Price 2005); and	5	5.6	29.10	5-B	
		– *Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials* (Price 2009).	5	5.6	29.10	5-B	
		• description of sampling or analytical approach used;	5	5.6.1		5-B	
		• description of test results for ML/ARD characterization, including static acid-base accounting testing, longer term kinetic testing to evaluate rates of acid generation (if any) and metal leaching, and field based testing; and	5	5.6.2, 5.6.3, 5.6.5		5-B	
		• practical guidelines on how to distinguish and segregate PAG and non-PAG materials in the field.	5	5.6		5-B	
		The lag time to ML/ARD onset will be assessed for most potentially-ARD generating materials, and this information will be integrated into the Application where appropriate (e.g. in the development of management plans or to describe temporal (duration/frequency) aspects of the residual effects assessment for VCs where appropriate).	5	5.6.2.3, 5.6.3.2, 5.6.5		5-B	
		Geological materials potentially disturbed by the Project that will be investigated for ML/ARD potential include:					
		• ore;	5	5.6.3		5-B	
		• waste rock;	5	5.6.2		5-B	
		• tailings and tailings paste backfill;	5	5.6.3		5-B	
		• water treatment plant by-product (if backfilled to the underground);	5	5.11 Table 5.11-3			Treatment plant by-product not being used for underground backfill.
		• overburden;	5	5.6.4		5-B	
		• potential construction material; and	5	5.6.4		5-B	
		• underground exposures.	5	5.6.2, 5.6.3		5-B	
6.6	Mining Equipment	The Application will include the following information:					
		• a list of mining equipment, including capacity, horsepower and hours of use, etc., for Construction, Operation, and Closure.	5 7	5.7.3, 5.7.5 Table 5.7-2 7.5.1			
6.7	Construction	The Application will describe the proposed Project components and physical activities, along with an anticipated timetable and schedule for those activities occurring during the Construction phase including, if required:	5	5.7 Figure 5.7-1	29.1.3.3		
		• potential upgrades to the existing 75 km exploration access road to accommodate mine traffic;	5	5.7.4, 5.13.1		5-G	
		• upgrades to the existing airstrip in the Bowser River Valley;	5	5.7.4, 5.13.4			
		• construction of the transfer station near the base of the Knipple Glacier;	5	5.7.4, 5.13.3			
		• construction of the transmission line;	5	5.7.4, 5.13.2			
		• expansion of the current exploration camp facilities to accommodate the construction workforce, including an additional bunkhouse and kitchen, and sewage treatment;	5	5.7.4, 5.12.3			
		• construction of the mill and generator buildings, and water treatment plant;	5	5.7.4, 5.9.4, 5.12.16			
		• construction of the tailings pipeline;	5	5.7.4, 5.11.2.2			
		• development of the waste rock storage facility;	5	5.7.4, 5.11.1			

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6.7 *(cont'd)*	Construction *(cont'd)*	• development of the underground portal and facilities;	5	5.7.4, 5.8.4			
		• ML/ARD prevention and management;	5	5.7.4	29.10, 29.18, 29.19		
		• equipment/machinery transportation (including traffic type, volume, and frequency);	5	5.7.3, 5.7.5, 5.13.1.4 Table 5.13-4			
		• site preparation;	5	5.7.4, 5.13.3.1 Figure 5.7-1			
		• soil and overburden salvage;	5	5.7.4	29.13		
		• surface infrastructure installations, including conveyor, fuel storage facility, diversion channels, and other erosion control measures;	5	5.7.4			
		• safety measures; and	5	5.7.1			
		• communication within the Project site and to the outside world.	5	5.8.4.12, 5.12.15, 5.13.2.1, 5.13.2.2			
		Construction activities related to the transmission line include:					
		• vegetation clearing; and	5	5.13.2, 5.13.2.1			
		• installation of towers and the transmission line.	5	5.13.2, 5.13.2.1			
		The Application will describe the anticipated construction workforce, including the number of people and range of skill sets required.	5	5.16.1			
		A construction management plan (Section 17) will be referenced.	5	5.7.1			
6.8	Mine Development and Operations	The Application will describe the Project components and physical activities, along with an anticipated timetable and schedule for those occurring during the Operation phase including:					
		• workforce requirements;	5	5.16.2			
		• materials and supplies transportation to the site (including traffic type, volume, and frequency);	5	5.13.1.4			
		• ML/ARD prevention and management;	5	5.11.1, 5.11.2	29.10, 29.18, 29.19		
		• underground mining (drilling, blasting, and mucking);	5	5.8.2.4, 5.8.2.6,			
		• dust emission control of underground and ventilation systems;	5	5.8.4.3, 5.8.4.6			
		• waste rock management;	5	5.11.1	29.18		
		• material handling;	5	5.8.4.2			
		• ore processing;	5	5.9			
		• soils and waste management;	5	5.7.4, 5.11	29.13, 29.17		
		• water management;	5	5.10	29.19	5-C	
		• safety measures; and	5	5.7.1, 5.8.2.2, 5.8.4.3, 5.8.4.12, 5.9.10, 5.11.1.4, 5.12.2, 5.12.10, 5.12.11, 5.13.1.1, 5.13.1.2, 5.13.3			
		• communication.	5	5.8.4.12, 5.12.14, 5.12.15, 5.13.2.2, 5.13.3.2, 5.13.4			
6.8.1	Mine Production Schedule	The Application will include a description of the mine production schedule, including a table summarizing key dates (e.g., Year 1, Year 2) and PAG and non-PAG material tonnage predicted to be extracted.	5	5.8.3 Table 5.8-7 Figures 5.8-14, 5.8-15, 5.11-1			

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6.8.2	Underground Mining	Underground mining will be completed by long hole open stope mining. The Application will include:	5	5.8.2			
		• description (and illustration) of the underground development plan, including opening and stope dimensions;	5	5.8.2.1 Figures 5.8-1, 5.8-2			
		• geotechnical and hydrological considerations for underground development including expected rock quality;	5	5.8.2.1		11-B, 11-C	
		• conceptual ground control management plan for the underground workings including proposed support for typical ground, areas of poor rock quality, and any major excavations; and	5	5.8.2.1		5-I	
		• methods used to estimate the areal extent of expected surface subsidence, the degree of expected subsidence, and potential effects (if any) on surface infrastructure.	5	5.8.2.8		11-B, 11-C	
6.8.3	Mineral Processing	The Application will include a description of the mineral processing for the Project, including facilities and technologies involved, processing volumes, concentrate storage and transportation, and the locations and sizes of any run of mine ore stockpiles.	5	5.7.2, 5.8.4.2, 5.9			
6.8.4	Water Management	The Application will include a plan for water management (measures for erosion and sediment control, disposal of surplus underground water, and provision of process, fire and potable water, etc.,) at each Project phase, including Construction, Operation, Closure, and Post-closure. The Application will include a description of the:	5	5.10	29.19, 29.13	5-C	
		• diversion channel infrastructure based on feasibility level design of the diversion channels including side slope heights, side slope materials and angles, the stability of the side slopes, hydraulic capacity of the channels; and description of any lining or armouring;	5	5.10.3			
		• storage capacity of any impoundments;	5	5.10.4			
		• collection and pumping of contact water;	5	5.10.4			
		• associated geohazards;	5	5.12.1	29.4		
		• management of underground seepage;	5	5.8.4.1, 5.10			
		• sources and required volumes of process and potable water;	5	5.9.4, 5.10.2, 5.10.6, 5.13.2, 5.13.5			
		• water treatment requirements and handling of any water treatment plant by-product;	5	5.10.4, 5.12.16			
		• liquid effluent sources, including predicted volumes, variation with season, project phase and component;	5 10 13	5.10.7 10.6 13.4.2, 13.5.1.1		5-C	
		• monitoring commitments related to water management; and	5	5.12.21	29.3, 29.19	5-C	
		• administrative framework surrounding water management.	5	5.1.1			
		For any embankments, the Application will provide:					
		• feasibility level geotechnical design information;	5	5.10.4			
		• a description of any embankment heights, slopes, and method of construction;	5	5.10.4			
		• foundation conditions including foundation angle and soil properties;	5	5.7.2			
		• description of construction materials and borrow source locations;	5	5.10.4			
		• feasibility level geotechnical stability assessment including preliminary factors of safety;	5	5.10.4			
		• conceptual plan for any proposed instrumentation or monitoring;	5	5.10.4	29.3, 29.19		
		• description of any seepage control rates and seepage management;	5	5.10.4			
		• an assessment of geohazards that could influence the impoundments; and	5	5.12.1		5-F	
		• reference to the Canadian Dam Association, Dam Safety Guidelines where appropriate including consequence classification, seismic design criteria, inflow design flood, and factors of safety for any dams or embankments.	5	5.10.4			
		Water management plan(s) (Section 17) will be referenced.	5	5.10	29.19		

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6.8.5	Waste Management	The Application will include a description of waste sources, volumes, treatment requirements and temporary and final storage measures and locations.	5	5.11	29.17, 29.18,		
		The Application will also include a description of monitoring commitments related to waste management, and the Regulatory Framework surrounding each waste stream.	5	5.11.1.4	29.17, 29.18, 29.19		
		Figures of waste discharge locations will be provided.	5	Figure 5.1-2			
6.8.5.1	Waste Rock	Specific to the management of waste rock, the Application will:					
		• characterize waste rock with respect to ARD and metal leaching;	5	5.11.1.1, 5.6.2		5-B	
		• provide an estimate of the volumes of waste rock that will be disposed underground and in Brucejack Lake, and the relative timing of each disposal method;	5	5.11.1, 5.6		5-B	
		• describe the temporary waste rock transfer pad and stockpile including location, maximum volume, maximum height, foundation material, and slope angles (foundation and dump face);	5	5.7.2, 5.11.1.4, 5.11.3, 5.12.2			
		• describe the proposed method for safe disposal of waste rock in Brucejack Lake.	5	5.11.1	29.18	5-D	
		• describe results of a feasibility level geotechnical stability assessment for the waste rock causeway including preliminary factors of safety at critical stages of development;	5	5.11.1.4		5-D	
		• provide a cross-section through the causeway at its greatest height above lake bottom;	5	5.11.1.4		5-D	
		• provide a conceptual plan for any proposed instrumentation or monitoring of the causeway (during Construction and during Operation);	5	5.11.1.4			
		• discussion of the effect (if any) of the tailings on the stability of the submerged waste rock (i.e., will the toe of the causeway rest on the tailings);	5	5.11.1.4		5-D	
		• provide a series of cross-section through the submerged tailings and the waste rock to illustrate the development sequence of these waste material placements;	5	5.11.1.4			
		• discussion of the stability of the natural outlet of the lake with illustrated comparison of the maximum elevation of the waste rock and tailings with the minimum elevation of the outlet; and	5	5.12.21		5-J	
		• provide a waste management plan for the handling and, where practical, segregation criteria for waste rock to prevent or minimize the likelihood of ML/ARD from occurring	5	5.6.2	29.10, 29.18, 29.19	5-B	
6.8.5.2	Tailings	Specific to the management of tailings, the Application will:					
		• characterize anticipated tailings with respect to ML/ARD potential and metal content;	5	5.6.3		5-B	
		• provide an estimate of the volumes of tailings that will be disposed underground as paste backfill and in Brucejack Lake, and the relative timing of each disposal method; and	5	5.11.2		5-E	
		• describe the proposed method for disposal of tailings in Brucejack Lake, including:				5-E	
		– proposed tailings pipeline and discharge locations;	5	5.11.2			
		– any associated geohazards and required geohazards mitigation measures;	5	5.11.2			
		– tailings discharge concepts to control release of suspended sediments into the lake;	5	5.11.2			
		– conceptual description of tailings mound dynamics;	5	5.11.2, 5.11.1.4			
		– general characteristics of the sediments at the mound/lake water interface;	5	5.11.2			
		– control measures and redundancies designed to avoid “upset conditions”;	5	5.11.2			
		– surface extent of tailings mound at various periods through mine life;	5	5.11.2; Figure 5.11-4			
		– description of new or challenging technologies to be employed including a description of other locations where similar disposal methods have been used; and	5	5.11.2.5			
		• provide a waste management plan for the handling for tailings to prevent or minimize the likelihood of ML/ARD from occurring.	29		29.15		
		A tailings management plan (Section 17) will be referenced.	5	5.11.2			

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6.8.5.3	Air Emissions	The Application will describe potential sources of air emissions such as particulate matter, NO_x, SO_x, and greenhouse gas. Emission sources to be described, with relevant mitigation, will include:	7	7.5.1, 7.7			
		• fuel combustion by surface and underground vehicles, and diesel generators when in use;	7	7.5.1, 7.4.3.1, 7.4.3.2, 7.7			
		• fugitive dust from vehicle traffic, waste rock handling, blasting and crushing; and	7	7.5.1, 7.7			
		• waste incinerator.	7	7.5.1, 7.7			
		An air quality management plan (Section 17) will be referenced.	5 7	5.11.3 7.7	29.2		
6.8.5.4	Hazardous Waste	The Application will describe potential sources of, and facilities to store and manage, hazardous waste materials, such as spoiled reagents and used batteries. A hazardous waste management plan (Section 17) will be referenced.	5	5.9.10, 5.11.4	29.7, 29.14		
6.8.5.5	Non-hazardous Waste Management	The Application will describe the proposed facilities for the management of non-hazardous waste materials, including one or more incinerators, a permitted landfill or use of regional landfill, waste collection areas for recyclable and hazardous waste, and sewage effluent and sludge disposal.	5	5.11.5, 5.11.6	29.7, 29.14		
6.8.5.6	Sewage	The Application will describe the management of sewage from the mine facilities and transfer station.	5	5.11.6			
6.8.6	Power Supply	The Application will include a description of the transmission line (TL), including:					
		• transmission line right-of-way (ROW) and relevant design criteria;	5	5.13.2			
		• width of the ROW;	5	5.13.2			
		• conceptual ROW access plan for Construction and Operation;	5	5.13.2			
		• stream crossing and structures;	5	5.13.2			
		• staging areas to facilitate the construction process;	5	5.13.2, 5.13.5			
		• size of poles;	5	5.13.2			
		• power capacity of the transmission line; and	5	5.13.2			
		• construction methods.	5	5.13.2			
		Any backup-power supply will also be discussed.	5	5.12.14			
		The Application will also include a description of monitoring commitments related to the power supply, and the Regulatory and Policy Framework surrounding the power supply.	5	5.13.1, 5.13.2			
		The Application will reference the Fisheries and Oceans Canada Pacific Region *Operational Statement for Overhead Line Construction* (Fisheries and Oceans Canada 2007) and *Operational Statement for Maintenance of Riparian Vegetation in Existing Right-of-Ways* (Fisheries and Oceans Canada 2007).	5	5.13.2			
		Watercourse crossings will also be assessed against the Minor Works and Water Order, under the *Navigable Waters Protection Act* (1985e).	5 23	5.13.2 23.5		23-A	
6.8.7	Ancillary Infrastructure	The Application will include a description of the proposed ancillary infrastructure, including:					
		• helicopter pads at the Brucejack site, transfer facility and airstrip;	5	5.12.18			
		• camps and offices, including the construction and operations camps at the Brucejack Lake site;	5	5.12.3			
		• surface and underground explosives storage facilities;	5	5.8.4.9, 5.12.11			
		• diesel backup generators;	5	5.12.14			
		• fuel storage;	5	5.12.10			
		• transfer station, including camp, fuel storage, transfer building; diesel generators, water supply, sewage treatment, waste management facilities and laydown area;	5	5.10.6.3, 5.11.6, 5.12.3, 5.12.10.3, 5.13.1.2, 5.13.3.4, 5.13.3.5,			
		• aerodrome;	5	5.13.4			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
6.8.7 *(cont'd)*	Ancillary Infrastructure *(cont'd)*	• communications;	5	5.12.15			
		• property security services; and	5	5.7.1, 5.9.9, 5.9.11. 5.13.1.3		5-A	
		• geohazards that could potentially impact human health (life) or the environment; either directly, or indirectly as a result of damage to or loss of the infrastructure. Assessment to include (but not be limited to) rockfalls, landslides, debris flows, and snow avalanches, and is to include proposed mitigation measures.	5	5.12.1, 5.13.3		5-F, 5-H	
6.8.7.1	Camp	The Application will describe the locations of and activities surrounding the construction and operations camps, including:					
		• site preparation;	5	5.7.4			
		• water management;	5	5.7.4, 5.10			
		• waste treatment, including:					
		– domestic waste water treatment;	5	5.11.6			
		– sewage and wastewater treatment;	5	5.11.6			
		– solid waste treatment;	5	5.11.5			
		• access roads;	5	5.7.4, 5.12.2			
		• placement and construction of buildings such as accommodation, kitchens, offices, and shops; and	5	5.7.4, 5.12.3, 5.9.4, 5.12.7			
		• utilities.	5	5.10.6.3, 5.12.14			
6.8.7.2	Mineral Processing Facility	The Application will describe the locations of and activities surrounding the mineral processing facility, including:					
		• site preparation;	5	5.7.4			
		• water management;	5	5.10.3, 5.10.4			
		• waste treatment, including:					
		– domestic waste water treatment;	5	5.11.6			
		– hazardous waste treatment;	5	5.11.6			
		– solid waste treatment;	5	5.11.5			
		• access roads;	5	5.7.4, 5.12.2			
		• footprint location and size; and	5	5.9.4			
		• utilities.	5	5.10.6.3, 5.12.14			
		The Application will include a description of management plans, monitoring commitments, and the regulatory and policy framework surrounding the Construction, Operation, Closure, and Post-closure phases for the mineral processing facility.	5 29	5.1.1 29.1 to 29.23			
		Relevant management plans (e.g., fuel storage management plan) will be referenced.	5	5.9.1, 5.9.10, 5.10, 5.11.2, 5.11.3, 5.11.4			
6.8.7.3	Transfer Station	The Application will describe the construction and use of the transfer station and associated activities.	5	5.7.4, 5.13.3			
		The Application will include a description of management plans, monitoring commitments, and the Regulatory and Policy Framework surrounding the Construction, Operation, Closure, and Post-closure phases for the transfer station.	5	5.1.1, 5.13.3			
		Relevant management plans (e.g., fuel storage management plan) will be referenced.	5	5.13.3			
6.8.7.4	Fuel Storage	The Application will describe the locations of and activities surrounding fuel storage, including:					
		• site preparation;	5	5.7.4, 5.12.2			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
6.8.7.4 *(cont'd)*	Fuel Storage *(cont'd)*	• number, size and location of storage tanks;	5	5.12.10			
		• water management;	5	5.10.1			
		• hazardous waste treatment;	5	5.11.4			
		• access roads; and	5	5.12.2			
		• footprint location and size.	5	5.12.10			
		A Hazardous Materials Management Plan will be referenced (see Section 17).	5	5.12.10			
		The Application will include a description of management plans, monitoring commitments, and the Regulatory and Policy Framework surrounding the Construction, Operation, Closure, and Post-closure phases for the fuel storage tanks.	5	5.1.1, 5.12.10	29.7		
6.8.8	Explosives	The Application will include a description of management plans, monitoring commitments, and the Regulatory and Policy Framework surrounding the Construction, Operation, Closure, and Post-closure Project phases for explosives acquisition, transportation, storage, handling, and use. This will include the following information:	5	5.8.4.9, 5.12.11			
		• the type, quantity, storage and use of explosives;	5	5.8.4.9, 5.12.11			
		• the infrastructure for storing explosives, including explosives and magazines;	5	5.8.4.9, 5.12.11			
		• associated geohazards;	5	5.12.11			
		• the location of the various components of the facilities, with distances to vulnerable features including, but not limited to, dwellings, roads, and bodies of water;	5	5.8.4.9, 5.12.11			
		• maximum quantity of explosives at each facility;	5	5.12.11			
		• evaluation of the worst case scenario;	31	31.2, 31.6.1, 31.6.4, 31.7			
		• conceptual details on any temporary explosive facilities to be used during the Project start-up;	5	5.12.11			
		• description of the transportation method of explosives;	5	5.12.11			
		• description of the mine plan pertaining to blasting; and	5	5.8.2.6			
		• Hazardous Materials Management Plan (see Section 17).	5	5.12.11			
6.8.9	Project Access and Transportation Corridor	The Application will include a general description of the access road's alignment and, with regards to Project-specific traffic, it will describe:	5	5.13.1			
		• access control;	5	5.13.1			
		• anticipated traffic types and volumes;	5	5.13.1			
		• geohazards that could impact the access road;	5	5.13.1, 5.14.2			
		• specific plans for management of the portion of the road traversing the Knipple Glacier; and	5	5.13.1			
		• road maintenance.	5	5.13.1			
6.9	Closure and Reclamation	A description of the Regulatory and Policy Framework and permitting requirements that are needed with respect to the closure and reclamation of the Project will be provided in the Application.	30	30.2			
		The Application will indicate where planning has occurred to support successful reclamation in the long-term.	30	30.4, 30.5			
		The Application will describe the activities surrounding the Closure and Reclamation phase (hereafter referred to as the Closure phase) of the Project. This will include descriptions of:	30				
		• closure of the underground mine;	5 30	5.15 30.5.2.3			
		• closure of the process plant, camp, and ancillary infrastructure;	5 30	5.15 30.5.2			
		• closure of waste rock and tailings storage facilities; and	30	30.5.2.11			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	**Title**	**Description**	**Main Volume Chapter No.**	**Section**	**Environmental Management Plan**	**Appendix**	**Comments**
6.9 *(cont'd)*	Closure and Reclamation *(cont'd)*	• closure of roads and power lines; and	5 30	5.15 30.5.5, 30.5.6			
		• opportunities to progressively reclaim areas of surface disturbance following the Construction phase and throughout the Operation phase.	30	30.6			
		A schedule describing the timing of closure activities will be included. Specific details will be provided in the Application for:	30	30.7			
		• development of specific reclamation details derived over the life of the mine;	30	30.5, 30.6			
		• workforce requirements;	5	5.16.3			
		• equipment and materials requirements (including traffic type, volume, and frequency);	5	5.13.1.4			
		• ML/ARD prevention and management;	30	30.5.2.18			
		• safety considerations;	5	5.7.1, 5.15			
		• geohazards or terrain hazards; and	5 30	5.13.1, 5.13.3, 5.14, 5.14.2.1 30.3.1		5-F, 5-H	
		• water management.	5 30	5.10 30.5.2.9, 30.5.2.18			
		The Application will provide an initial estimate for reclamation bonding based on provincial government guidelines; it will include the costs associated with long-term monitoring and with maintenance for infrastructure that is to remain on site.	30	30.10, 30.11			
6.10	Post-closure	The Application will describe activities associated with the Post-closure phase.	30	30.11			
		Requirements for long-term monitoring and treatment will be presented, if appropriate.	30	30.11			
6.11	Project Capital Costs	The Application will describe the total capital and annual operating expenditures for the Project for the Construction, Operation, and Closure phases.	5 30	5.17 30.11.9 Tables 30.10-1, 30.11-1			
PART B	**ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION, AND SIGNIFICANCE OF RESIDUAL EFFECTS**	Part B of the Application will describe the assessment methodology and summarize the assessment of potential effects of the Project on environmental, social, economic, health, and heritage values (Project-specific and cumulative). The Application will indicate the predicted effects of the Project during Construction, Operation, Closure, and Post-closure Project phases, and describe these effects using appropriate criteria.					
7	Assessment Methodology	The Application will describe the assessment methodology used to analyze potential effects and determine significance of residual effects of the Project on environmental, social, economic, heritage, and health values. Both assessment methodologies for the Project-related and Cumulative Effects Assessment (CEA) will be included.	6	6.1 to 6.12			
7.1	Introduction	The introduction to this chapter in the Application will briefly describe the content of the Assessment Methodology chapter, including:					
		• an overview of the baseline studies used to support the effects assessment;	6 7 8 9 10 13 14 15 16	6.3.3 Table 6.3-1		7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A	

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.1 *(cont'd)*	Introduction *(cont'd)*	• an overview of the baseline studies used to support the effects assessment; *(cont'd)*	17 18 19 21 22 24			17-A 18-A 19-A 21-A, 21-D 22-A, 22-B 24-A, 24-B	
		• the scoping processes used to select valued components (VCs) and identify potential effects in each of the five assessment "pillars" (i.e., environmental, social, economic, heritage, or health considerations) as prescribed by the BC *EAA* (2002a);	6	6.4			
		• spatial and temporal boundaries used in the effects assessment;	6	6.4.2			
		• the process for assessing potential effects and implementing mitigation measures.	6	6.4.3, 6.5		5-C	
		• the process for determining the significance of residual effects;	6	6.7			
		• the methodology for the cumulative effects assessment; and	6	6.9 6.10 6.11			
		• a list of the guidance documents used to develop the assessment methodology.	6	6.1			
7.2	Regulatory and Policy Framework	The Application will include a description of the regulatory and policy framework for each of the assessment topics, or the compendium of requirements with which the Project is required to, and/or has chosen to, comply. This may include the following:	6 to 25 26 27	[6 to 25].2 26.1 27.1			
		• legal requirements (laws, regulations, decrees, etc.);	6 to 25 26 27	[6 to 25].2 26.1 27.1			
		• internal corporate standards (e.g., the Proponent's environmental performance standards);	6 7 to 24	6.2, 6.4.1 [7 to 24].2			
		• programme requirements (e.g., EHS Guidelines);	6 7 to 25 26 27	6.2, 6.4.1 [7 to 25].2 26.1 27.1			
		• guidance documents (e.g., BC EAO Guideline for the Selection of Valued Components and Assessment of Potential Effects);	6 7 to 25 26 27	6.2, 6.4.1 [7 to 25].2 26.1, 26.3.5, 26.5.3 27.1			
		• management plans (e.g., land use and resource management plans); and	29	29.1 to 29.22			
		• jurisdictional policies (e.g., Policy for Metal Leaching and Acid Rock Drainage at Minesites in British Columbia (BC MEM and BC MELP 1998).	6 to 24	[6 to 24].2			
		The Regulatory and Policy Framework may include two broad types of requirements:					
		• the requirements that apply to the Project (e.g., end-of-pipe effluent discharge criteria); and	2 6 to 25 26 27	2.3 [6 to 25].2 26.1 27.1			
		• the requirements that apply to EA process (e.g., public consultation and associated EA and permitting approvals processes)	2 6 to 25 26 27	2.1 to 2.3 [6 to 25].2 26.1 27.1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.3	Baseline Characterization	In order to adequately characterize Project effects, the environmental, social, economic, heritage, and health regional and local settings will be described.	6 to 25	[6 to 25].3		7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A 19-A 21-A, 21-D 22-A, 22-B 24-A, 24-B 25-A, 25-B, 25-C	
		A brief description of historical and current activities influencing the Project footprint will be provided.	6 to 25	[6 to 25].3.2			
		The Application will also describe baseline studies undertaken to support the assessment of each subject area, including a description of the information sources that were reviewed to obtain existing data, data collection and analytical methodologies, and a summary of results.	6 to 25 26 27	[6 to 25].3 26.2, 26.3 27.2, 27.4, 27.5, 27.6		7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A 19-A 21-A, 21-D 22-A, 22-B 24-A, 24-B 25-A, 25-B, 25-C	
		Detailed baseline study results will be provided in an appendix to the Application.	7 8 9 10 13 14 15 16 17 18 19 21 22 24 25			7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A 19-A 21-A, 21-D 22-A, 22-B 24-A, 24-B 25-A, 25-B, 25-C	
		A summary table of the field baseline data collection programs undertaken for each assessment subject area will be provided.	6	6.3.3 Table 6.3-1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.3 *(cont'd)*	Baseline Characterization *(cont'd)*	The description of the baseline information will have the following objectives:					
		• to identify the key environmental, social, economic, heritage, and health conditions in the area affected by the Project, focusing on the resources/receptors that may be impacted by the Project;	6 7 to 25	6.3.3 [7 to 25].3		7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A 19-A 21-A, 21-D 22-A, 22-B 24-A, 24-B 25-A, 25-B, 25-C	
		• to describe and, where possible, quantify their characteristics (nature, condition, quality, extent, etc.), both now and in the future in the absence of the Project (see discussion below);	6 7 to 25	6.3.3 [7 to 25].3		7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A 19-A 21-A, 21-D 22-A, 22-B 24-A, 24-B 25-A, 25-B, 25-C	
		• to provide data to aid the prediction and modelling of effects;	6 7 to 25	6.3.3 [7 to 25].3		7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A 19-A 21-A, 21-D 22-A, 22-B 24-A, 24-B 25-A, 25-B, 25-C	

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.3 *(cont'd)*	Baseline Characterization *(cont'd)*	• to inform judgments about the sensitivity, vulnerability and/or importance of resources/receptors; and	6 7 to 25	6.3.3 [7 to 25].3		7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A 19-A 21-A, 21-D 22-A, 22-B 24-A, 24-B 25-A, 25-B, 25-C	
		• to identify reference points from which future monitoring programs may detect changes related to project development, should the project move ahead.	6 7 to 25	6.3.3 [7 to 25].3		7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A 19-A 21-A, 21-D 22-A, 22-B 24-A, 24-B 25-A, 25-B, 25-C	
		The baseline will take into account current conditions, as well as those changing conditions (i.e., trends) apparent in the baseline (e.g., depletion of fisheries, etc.).	6 7 to 25	6.3.3 [7 to 25].3		7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A 19-A 21-A, 21-D 22-A, 22-B 24-A, 24-B 25-A, 25-B, 25-C	
		Developments in the area which are currently in the regulatory process (i.e., no construction activities) or that are planned or proposed but are not yet committed or certain (i.e., they are behind the Project in the planning cycle), may be considered in the assessment of cumulative impacts and effects, not as part of the baseline.	6 7 to 11 12 to 18 19 20 21 22 24 25	6.9.2 [7 to 11].10 [12 to 18].9 19.10 20.9 21.9 22.7 24.9 25.9			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.3 *(cont'd)*	Baseline Characterization *(cont'd)*	The existing conditions in the baseline monitoring study areas, as they pertain to the selected VCs, will be discussed in each assessment chapter. This information will include:					
		• information from scientific studies, supplemented by Aboriginal knowledge/use as obtained from First Nations;	3 6 to 25 26 27	3.5 [6 to 25].3.3 26.2, 26.4 27.5		15-A, 15-B, 15-C, 15-D	
		• information provided by the Nisga'a Nation;	3 27	3.3, 3.5.1 27.3			
		• references to supporting documents, including annual baseline data reports, engineering, and technical reports, which will be included in the appendices to the Application; and	3 6 to 25 26 27	3.5 [6 to 25].3.3 26.2, 26.4 27.5		5-B 7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A	
		• summaries of methods used to study the baseline.	3 6 to 25 26 27	3.5 [6 to 25].3.3 26.2, 26.4 27.2		5-B 7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A	
7.4	Establishing the Scope of the Assessment	This section of the Application will include a description of:					
		• the issues scoping process used to identify candidate intermediate components and receptor valued components;	6 to 25	[6 to 25].4.1			
		• the spatial, temporal and other types of boundaries selected for the assessment; and	6 to 25 26 27	[6 to 25].4.2 26.5.1 27.4.1, 27.5.1			
		• the identification of potential effects that may occur as a result of the interaction between the Project and selected intermediate components and receptor Valued Components (receptor VCs).	6 to 25	[6 to 25].4.3			
7.4.1	Selecting Intermediate Components and Receptor Valued Components	The Application will describe the issues scoping process used to identify subject areas, sub-components, and associated indicators within each of the environmental, social, economic, heritage or health assessment themes that have the potential to be adversely affected by Project components and/or physical activities.	6 7 to 25	6.4.1.3 [7 to 25].4.1			
		Intermediate components (i.e., air quality, noise, terrain and soil, surface water quantity, groundwater quantity, and groundwater quality) will be contained in a section of the Application called "Predictive Studies."	7 to 11	All sections			
		Pathways between intermediate components and receptor VCs will be described, and figures showing these linkages will be included in the Application.	6 7 8 9 10 11 12 to 25	6.4.1.1; Figure 6.4-1 7.4.1, 7.9 8.4.1, 8.9 9.4.1, 9.8 10.4.1, 10.9 11.4.1, 11.9 [12 to 25].4.1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.4.2	Assessment Boundaries	The Application will include the following:					
		• criteria used to determine the extent of spatial boundaries for each intermediate component and receptor VC;	6 to 25	[6 to 25].4.2			
		• a description of the local and regional spatial extent of the assessment; and	6 to 10 11 12 to 25	[6 to 10].4.2 11.4.3 [12 to 25].4.2			
		• maps outlining the spatial extent of the regional and local study areas.	7 to 10 11 12 to 24	[7 to 10].4.2 11.4.3 [12 to 24].4.2			
		Study areas will be developed based on a review of existing information, potential effects, and feedback received during consultation activities. The spatial boundary for each intermediate component and receptor VC will be discussed and illustrated on figures provided in Sections 8 through 12 for the Application.	6 7 to 10 11 12 to 25	6.4.2 [7 to 10].4.2.1 11.4.3.1 [12 to 25].4.2.1			
		The Application will present the temporal boundaries for each subject area, as well as the rationale for their selection. Potential effects on intermediate components and receptor VCs will be considered for each phase of the Project (where relevant): Construction, Operation, Reclamation and Closure, and Post-closure.	6 7 to 10 11 12 to 25	6.4.2 [7 to 10].4.2.2 11.4.3.2 [12 to 25].4.2.2			
		Where applicable, the Application will present the technical and administrative boundaries for each intermediate component and receptor VC, as well as the rationale for their selection and inclusion.	6 to 12 11 12 to 24	[6 to 12].4.2 11.4.3 [12 to 24].4.2			
7.4.3	Identifying Potential Effects	A discussion of how intermediate components and receptor VCs may be affected by interactions with Project components and physical activities for each Project phase will be provided in the Application.	6 to 10 11 12 to 25	[6 to 10].4.3 11.4.4 [12 to 25].4.3			
7.5	Effects Assessment and Mitigation	This section of the Application will provide a detailed discussion of the key potential effects arising from the Construction, Operation, Closure, and Post-closure phases of the Project and its components.	6 to 25	[6 to 25].5			
		Mitigation measures that will be taken to reduce the potential for adverse effects arising from the Project will be identified and discussed.	6 7 to 11 12 to 25	6.5 [7 to 11].7 [12 to 25].5			
7.5.1	Identifying Key Effects	The Application will identify and discuss the components and activities from the Project that are predicted to have the greatest potential to cause significant adverse effects on intermediate components and receptor VCs. This analysis will be based on the results of the baseline studies (i.e., the conditions of the Baseline Characterization), the issues or concerns raised during the EA pre-application phase and through consultation activities, scientific knowledge, and past experience on other mining projects (particularly in northwest BC).	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.4, 6.4.1, 6.4.3, 6.5.1 7.4, 7.5 8.4, 8.5 9.4,9.5 10.4, 10.5 11.4, 11.5 12.4, 12.5 13.4, 13.5, 13.6 14.4, 14.5 15.4, 15.5 16.4, 16.5 17.4, 17.5 18.4, 18.5 19.4, 19.5 20.4, 20.5 21.4, 21.5 22.4 ,22.5 23.4, 23.5 24.4, 24.5 25.4, 25.5			
		The Application will describe direct and/or indirect potential effects of the Project. Direct effects result from specific Project interactions with intermediate components and receptor VCs throughout the project footprint including the mine site and transmission line corridor. Indirect effects are the result of direct effects of the Project that lead to other effects (e.g., the potential for an increase in the consumption of goods and services as a result of increased income and influx of workers into the local and regional study area).					
		The effects assessment will apply best practice methods to predict the nature and extent of effects that may result from the Project. For each assessment subject area and sub-component, the Application will include any relevant references, analyses, and explanations that define:					
		• how scientific, engineering, community and Aboriginal knowledge were used in the assessment;					
		• which studies included the assistance of communities and individuals, who was involved (if the information can be made public), and how contributors were selected;					
		• data collection methods and limitations;					
		• model assumptions and study methodologies;					
		• study and model outputs, calculations, supporting analyses, potential sources of error, sensitivity analyses, and an explanation of results; and					

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.5.1 *(cont'd)*	Identifying Key Effects *(cont'd)*	• reference literature or other information sources for any contributions, including traditional knowledge.					
		Effects predictions will consider any embedded controls.					
7.5.2	Implementing Mitigation Measures	The Application will discuss the range of potential mitigation measures that will be implemented to avoid, minimize, restore on-site, or offset adverse effects on intermediate components and receptor VCs, resulting from the Project and its activities. Key approaches to mitigate potential effects will include:	4 6 7 to 11 12 to 25 28 35	4.6 6.5.2 [7 to 11].7 [12 to 25].5 All sections 35.3, 35.4			
		• **Optimizing Alternatives**: Preventing or reducing adverse effects by changing an aspect of the Project (e.g., choosing a new access route).					
		• **Design Changes**: Preventing or reducing adverse effects by redesigning aspects of the Project (e.g., changing the routing of the transmission line).					
		• **Best Achievable Control Technology (BACT):** Eliminating, minimizing, controlling, or reducing adverse effects through the use of technological applications (e.g. high density sludge water treatment plants).					
		• **Management Practices**: Eliminating, minimizing, controlling, or reducing adverse effects on intermediate components or receptor VCs through management practices (e.g., watering unpaved roads to control dust).			29.1, 29.2, 29.3, 29.4, 29.5, 29.9, 29.10, 29.11, 29.12, 29.13, 29.15, 29.17, 29.18, 29.19, 29.20, 29.21		
		• **Compensation**: Offsetting remaining effects that cannot be prevented or reduced through remedial or compensatory actions, so that the net effect on the community or ecosystem is neutral or beneficial (e.g., enhancement of similar habitat in another area, enhancement of other social/economic/cultural benefits).					
		Each assessment chapter documents the following:					
		• Clearly indicates how the mitigation measures will mitigate the potential adverse effects on the intermediate component and receptor VC;					
		• Provides the rationale for the proposed suite of mitigation. Where obvious opportunities exist to apply additional or different mitigation measures, the rationale not to do so is provided;					
		• Evaluates the anticipated success of each mitigation measure and describe rationale and analysis for these evaluations; and					
		• Includes the time required for mitigation to become effective, to enable understanding of the duration of residual effects and the temporal characteristics of reversibility.					
		Proposed mitigation and monitoring activities for each assessment subject area will be described in the applicable sections of the Application, and compiled into discrete Environmental Management Plans (EMPs).			29.1, 29.2, 29.3, 29.4, 29.5, 29.9, 29.10, 29.11, 29.12, 29.13, 29.15, 29.17, 29.18, 29.19, 29.20, 29.21		
		Each EMP will apply a systematic approach for integrating project-specific mitigation and monitoring activities throughout the life cycle of the Project (i.e., into each Project phase).			29.1, 29.2, 29.3, 29.4, 29.5, 29.9, 29.10, 29.11, 29.12, 29.13, 29.15, 29.17, 29.18, 29.19, 29.20, 29.21		
		Adaptive management plans, compensation plans, and follow-up monitoring plans may also be included in an EMP where required.					
		If the proposed implementation controls and mitigation measure(s) are not sufficient to eliminate a key project intermediate component or receptor VC effect, the predicted change will be identified. Residual effects on receptor VCs will be carried forward for a significance determination and will rely on the results of the predicted studies on intermediate components to inform the significance determinations.					

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7.6	Predicted Changes on Intermediate Components/Residual Effects on Receptor Valued Components	The Application will describe direct and/or indirect residual effects of the Project.	6 to 25 35	[6 to 25].6 35.3, 35.4			
7.6.1	Residual Effects Remaining after Mitigation	For each predicted change on an intermediate component, or residual effect on a receptor VC that is identified, the Application will make use of standard ecological risk assessment frameworks that categorize the levels of detail and quality of the data required to analyze those effects (Canadian Environmental Assessment Agency 1994). These frameworks generally include the following tiers of information requirements:	6 7 to 21 24 25	6.6.1 [7 to 21].6 24.6 25.6			
		• **Tier 1**: Qualitative (expert opinion, including traditional and local knowledge, literature review, and existing site information, if available);					
		• **Tier 2**: Semi-quantitative (measured site-specific data and existing site information); and,					
		• **Tier 3**: Quantitative (recent field surveys, detailed quantitative methods, e.g., predictive modelling).					
		Predicted changes on intermediate components and residual effects on receptor VCs will be analyzed using best practice methods to describe the nature and extent of effects that may result from the Project. For each intermediate component and receptor VC, the Application will include any relevant references, analyses, and explanations that define:					
		• how scientific, engineering, community and Aboriginal knowledge were used in the assessment;					
		• which studies included the assistance of communities and individuals and who was involved (if the information can be made public);					
		• data collection methods and limitations;					
		• model assumptions and study methodologies, including statistical analysis or mathematical modelling;					
		• study and model outputs, calculations, supporting analyses, potential sources of error, sensitivity analyses, and an explanation of results; and					
		• reference literature or other information sources for any contributions, including traditional knowledge.					
		A summary of predicted changes on intermediate components and residual effects on receptor VCs will be provided for each subject area by completing the following table.					
		Summary of Valued Components with Predicted Residual Effects after Mitigation: **Sub-component** / **Project Phase (Timing of Effect)** / **Project Component/ Physical Activity** / **Description of Cause-Effect** / **Description of Mitigation Measure(s)** / **Description of Predicted Change/ Residual Effect**	6 7 to 11 12 to 25	6.6.1 [7 to 11].8 [12 to 25].6			
7.6.2	Characterization and Likelihood of Residual Effects	Residual effects on VCs identified in the above table will be characterized using the following attributes:	6 12 to 21 24 25	6.7.1 [12 to 21].7.1 24.7.1 25.7.1			
		• **Magnitude:** This refers to the expected magnitude or severity of the residual effect. Low magnitude effects may have no impact, while high magnitude effects may have an impact.					
		• **Geographic Extent**: This refers to the spatial scale over which the residual effect is expected to occur. The geographic extent of biophysical effects can be local, landscape/watershed, regional or beyond regional. Local effects may have a lower impact than regional effects. The geographic extent of socio-economic effects can be individual/household, community, regional, beyond regional, and Aboriginal peoples. Household effects may have a lower impact than beyond regional effects. If applicable, the extent of the residual effect will be discussed in relation to the distribution of a receptor VC.					

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.6.2 *(cont'd)*	Characterization and Likelihood of Residual Effects *(cont'd)*	• **Duration:** This refers to the length of time the effect lasts; the duration of an effect can be short-term to long-term. Short-term effects may have a lower impact than long term effects.					
		• **Frequency:** This refers to how often the effect occurs; the frequency of an effect can be frequent to infrequent. Infrequent effects may have a lower impact than frequent effects.					
		• **Reversibility:** This refers to the degree to which the effect is reversible. Effects can be fully reversible, partially reversible, or permanent. Reversible effects may have a lower impact than irreversible or permanent effects.					
		• **Resiliency**: This refers to the capacity of a receptor VC to resist or recover from major changes in structure and function following disturbances, without undergoing a shift to a vastly different regime that is very difficult to reverse.					
		• **Ecological Context:** This refers to the current condition of the receptor VC and its sensitivity. For example, an effect may have more of an impact in an area that is ecologically sensitive or a greenfield site, rather than a disturbed or brownfield location.					
		Predicted changes on intermediate components may also use the above terms to characterize the change in the condition of the intermediate component.					
		Likelihood refers to whether or not a residual effect is likely to occur. The likelihood, classified as high, moderate, or low of each residual adverse effect will be described for each receptor VC.					
7.6.3	Significance of Residual Effects	The Application will determine the significance (significant/not significant) of residual effects using the characterization criteria outlined in Section 7.6.2.	6 12 to 21 24 25	6.7.3 [12 to 21].7 24.7 25.7			
		The definition of significance will be clearly defined for each receptor VC.					
		Where available, relevant thresholds will be used (e.g., aquatic life receiving environment criteria, ambient air criteria, or land and resource management planning objectives) to assist with the determination of significance.					
		The Application will define any thresholds used as well as the source literature for those thresholds.					
7.6.4	Confidence and Risk	Confidence, which can also be thought of as scientific uncertainty, is a measure of how well residual effects are understood, which includes a consideration of the acceptability of the data inputs and analytical methods used to predict and assess project effects.	6 12 to 21 24 25	6.7.4 [12 to 21].7 24.7 25.7			
		The level of confidence in the assessment of effects will be stated for each receptor VC					
		In some situations, where effects are not well understood due to lack of confidence in scientific data, or because of the use of unproven mitigation technology, it may be necessary to conduct risk analyses. In these cases, the Application will summarize the process and methodology used for the risk analysis					
		Residual effects characterization, likelihood, significance, and confidence will be summarized for each receptor VC as presented in Table 7.6-2 of the AIR.					
7.6.5	Summary	The Application will summarize the main conclusions for residual effects on receptor valued components and for the predicted changes on each intermediate component.	6 7 to 25	6.8; Table 6.8-1 [7 to 25].8			
7.7	Cumulative Effects Assessment	The Application will assess potential environmental, economic, health, social, and heritage cumulative effects of the Project. The cumulative effects assessment will meet the requirements of the EAO as described in the *EAO User Guide* (BC EAO 2010a) for a cumulative impact assessment.	6 7 to 11 12 to 21 24 25	6.9 [7 to 11].10 [12 to 21].9 24.9 25.9			
		The cumulative effects assessment will follow, where applicable, the approach used for the Project-specific effects analysis and determination of significance previously presented. The Application will:					
		• carry forward predicted changes/residual effects for the cumulative effects assessment (CEA);					
		• provide the methodology and rationale used to identify other developments (historic, current, and reasonably foreseeable future projects) that may temporally and spatially overlap with the predicted changes/residual effects of the Project;					
		• identify and describe any potential adverse effects from other developments in the Project area (using publically available information);					

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.7 *(cont'd)*	Cumulative Effects Assessment *(cont'd)*	• describe the type of effects of the overlapping cumulative activities as appropriate;					
		• identify additional mitigation measures that may be required to minimize cumulative interactions; and					
		• determine the significance of any adverse residual cumulative effects on receptor VCs.					
7.7.1	Types of Cumulative Effects	The Application will describe the ways in which cumulative effects may occur for a specific subject area. These may include the following methods:	6 7 to 11 12 to 21 24 25	6.9.1 [7 to 11].10 [12 to 21].9 24.9 25.9			
		• **Physical-chemical transport**: a physical or chemical constituent is transported away from the action under review where it then interacts with another action (e.g., air emissions, waste water effluent, sediment).					
		• **Nibbling loss**: the gradual disturbance and loss of land and habitat (e.g., clearing of land for new roads into a forested area). This effect may include alienation of wildlife habitat due to sensory disturbance.					
		• **Spatial or temporal crowding**: cumulative effects can occur when too much is happening within too small an area and in too brief a period of time. A threshold may be exceeded and the environment may not be able to recover to pre-disturbance conditions. This can occur quickly or gradually over a long period of time before the effects become apparent. Spatial crowding results in an overlap of effects among actions (e.g., noise from a highway near multiple mines). Temporal crowding may occur if effects from different actions overlap or occur before an intermediate component or receptor VC has had time to recover.					
		• **Growth-inducing potential**: each new action can induce further actions to occur. The effects of these "spin-off" actions (e.g., increased vehicle access into a previously unroaded area) may add to the cumulative effects already occurring in the vicinity of the proposed action, creating a "feedback" effect. Such actions may be considered as "reasonably-foreseeable actions."					
7.7.2	Projects and Activities Considered	The Application will describe the historic, existing, and reasonably foreseeable projects and activities with potential residual effects that could spatially or temporally overlap with the Project.	6 7 to 11 12 to 21 24 25	6.9.2 [7 to 11].10 [12 to 21].9 24.9 25.9			
		Projects and activities to be considered in the CEA will be identified as:	6 7 to 11 12 13 to 21 24 25	6.9.2 [7 to 11].10 12.9 [13 to 21].9.1 24.9.1 25.9.1			
		• past (closed, certain) projects and activities occurring within the CEA study areas;					
		• present (active and inactive, certain) projects and activities occurring within the CEA study areas; and,					
		• reasonably foreseeable future projects and activities occurring within the CEA study areas.					
		All past, present, and reasonably foreseeable future projects, activities and actions with potential residual effects that could overlap spatially and temporally with the Project will be listed in a table (see blank example Table 7.7-1 of AIR) and shown on a figure similar to Figure 7.7-2 of AIR.	6 7 to 11 12 13 to 21 24 25	6.9.2 Tables 6.9-1, 6.9-2 Figure 6.9-2 [7 to 11].10.1 12.9 [13 to 21].9.1 24.9.1 25.9.1			
		A preliminary list of projects considered for the cumulative effects assessment are presented in Table 7.7-2. The rationale behind any omissions or additions to this list will be described in the Application.					
		Screening criteria will be applied to determine whether projects and activities should be included or excluded from the CEA, and may include the following considerations:					
		• a project/activity is within an RSA;					
		• project is within zone of influence of Project impacts;					
		• project is currently under some type of regulatory review;					
		• project is within or impacts overlap with socio-economic influenced areas;					
		• specific nature of impact (i.e., present or potential impact on an intermediate component or receptor VC of local or regional concern); and					
		• a high degree of confidence exists that the other project or activity would not interact with the predicted changes or residual effects of the Project on an intermediate component or receptor VC.					

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7.7.2 *(cont'd)*	Projects and Activities Considered *(cont'd)*	For those projects and activities identified in Table 7.7-1 of the AIR, the Application will provide information (if available), which may include:	6	6.9.2		9-A, 9-B	
		• an assessment of the adequacy of existing data used to describe the projects;					
		• location, physical size (e.g., footprint, volume of process throughput, hydroelectric capacity), and spatial distribution of components;					
		• components (e.g., main plant, access roads, waste disposal site) and supporting infrastructure (e.g., waste treatment, powerlines);					
		• expected life or period of activity (including start date) and phasing involved (e.g., exploration, construction, standard operations, later plans for upgraded or expanded operations, decommissioning and abandonment);					
		• variations in seasonal operation (e.g., winter closures);					
		• number of permanent and temporary employees;					
		• frequency of use for intermittent activities;					
		• transportation routes and mode of transport (e.g., roads, railways, traffic volume);					
		• process used (e.g., open pit mining);					
		• water use (withdrawals; groundwater wells);					
		• regulatory authorizations received (e.g., existing permits/licenses/approvals); and					
		• description and staging of EA process (if applicable).					
7.7.3	Establishing the Scope of the Cumulative Effects Assessment	The Application will describe the methodology for identifying potential cumulative interactions between Project-related residual effects and other projects and/or human activities.	6 7 to 11 12 13 to 21 24 25	6.9.3 [7 to 11].10.1 12.9 [13 to 21].9.1 24.9.1 25.9.1			
		A preliminary scoping approach using an impact matrix will be undertaken to select candidate projects/activities in consultation with the EAO and the Agency.	6 7 to 11 12 13 to 21 24 25	6.9.3; Table 6.9-4 [7 to 11].10.1 12.9 [13 to 21].9.1 24.9.1 25.9.1			
		The Application will contain a summary of all project-related residual effects that will be considered and analyzed for the potential to interact cumulatively with selected projects and/or activities; this analysis will be supported by a table.	6 7 to 11 12 to 21 24 25	6.6, 6.9.3 Tables 6.6-1, 6.9-5 [7 to 11].10 [12 to 21].9 24.9 25.9			
		A description of the type of cumulative effect that is expected is also provided.	6 7 to 11 12 to 21 24 25	6.9.1 [7 to 11].10 [12 to 21].9 24.9 25.9			
7.7.3.1	Cumulative Effects Assessment Boundaries	The CEA will consider the spatial and temporal extent of Project-related residual impacts on intermediate components and receptor VCs combined with the anticipated residual impacts from other projects and activities to assist with analyzing the potential for a cumulative impact to occur.	6	6.9.2, 6.9.3.1 Tables 6.9-1, 6.9-2 Figure 6.9-10			
		The Application will describe the geographic (spatial) boundary used to assess potential cumulative effects. To be considered in the CEA, the residual effects of other projects or activities must be expected to spatially overlap with Project-related residual effects.	7 to 11 12 13 to 21 24	[7 to 11].10.1 12.9 [13 to 21].9.1 24.9.1			

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7.7.3.1 *(cont'd)*	Cumulative Effects Assessment Boundaries *(cont'd)*	The Application will describe the temporal boundaries used to assess potential cumulative effects.					
		The expected timing and duration of Project-related residual effects will be compared with the timing of the residual effects of other historic, existing and future projects or activities to identify temporal overlap.					
		This process will include an assessment of whether past projects or activities affected the current baseline condition of each intermediate component or receptor VC.					
		A figure showing the timeline of all projects and/or activities will be included in the Application.					
7.7.4	Cumulative Effects and Mitigation	The Application will provide a discussion of the potential cumulative effects that may occur and additional mitigation that may be applied to address cumulative effects.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 24 25	6.9.4 7.10.2, 7.10.3 8.10.2, 8.10.3 9.10.2, 9.10.3 10.10.2, 10.10.3 11.10.2, 11.10.3 12.9 13.9.2, 13.9.3 14.9.2, 14.9.3 15.9.2, 15.9.3 16.9.2, 16.9.3 17.9.2, 17.9.3 18.9.2, 18.9.3 19.9.2, 19.9.3 20.9.2, 20.9.3 21.9.2, 21.9.3 24.9.2, 24.9.3 25.9.2, 25.9.3,			
		For each intermediate or receptor VC with a predicted cumulative effect, the Application will include any relevant references, analyses, and explanations that define:					
		• how scientific, engineering, community and Aboriginal knowledge were used in the analysis;					
		• which studies included the assistance of communities and individuals, who was involved (if the information can be made public), and how contributors were selected;					
		• data collection methods and limitations;					
		• model assumptions and study methodologies;					
		• study and model outputs, calculations, supporting analyses, potential sources of error, sensitivity analyses, and an explanation of results; and					
		• reference literature or other information sources for any contributions, including traditional knowledge.					
7.7.5	Cumulative Residual Effects	If the proposed mitigation measure(s) are not sufficient to eliminate a cumulative effect, a cumulative residual effect is identified and described and the specific projects and activities contributing to the cumulative residual effect(s) are discussed.	6 7 to 11 12 13 to 21 24 25	6.10; Table 6.10-1 [7 to 11].10.4 12.9 [13 to 21].9.4 24.9.4 25.9.4			
		The methodologies and underlying assumptions and data limitations will be provided in the accompanying text.					
		The Application will identify any residual adverse cumulative effects after the application of mitigation measures which will be summarized in a table.					
7.7.6	Characterization and Likelihood of Cumulative Residual Effects	The significance of cumulative residual effects on receptor VCs will be informed by the use of two assessment scenarios designed to understand the Projects incremental contribution to the cumulative residual effect:	6 7 to 11 12 13 to 21 24 25	6.11 [7 to 11].10.5 12.9 [13 to 21].9.5 24.9.5 25.9.5			
		• Future case *without* the Project - A consideration of residual effects from all other past, existing, and future projects and activities *without* the Brucejack Project. This analysis is designed to answer the following question: given the status of current baseline conditions, how will receptor VCs be affected by the residual effects from other reasonably foreseeable projects and activities in the absence of the Brucejack Project? The results of baseline data used in the Project-related effects assessment will be used to facilitate this discussion.					
		• Future case *with* the Project - A consideration of all residual effects from past, existing, and future projects and activities on an intermediate component or receptor VC *with* the Brucejack Project. This scenario is designed to answer the question: when combined with other project and activities, does the Brucejack Project act as a trigger that pushes an intermediate component or receptor VC beyond significant thresholds?					
		Cumulative residual effects (only for the Future case with the Project) will be identified and described in the Application using the same criteria presented in Section 7.6: direction, magnitude, duration, geographic extent, frequency, reversibility, context, and resiliency.	6 12 13 to 21 24 25	6.11 12.9 [13 to 21].9.5 24.9.5 25.9.5			

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7.7.6 *(cont'd)*	Characterization and Likelihood of Cumulative Residual Effects *(cont'd)*	The likelihood or probability of occurrence of the cumulative residual effect will then be discussed.	6 12 13 to 21 24 25	6.11 12.9 [13 to 21].9.5 24.9.5 25.9.5			
		Areas where insufficient data are available to provide an assessment will be highlighted, with the potential cumulative effects being described as uncertain in these instances.	6 12 13 to 21 24 25	6.11 12.9 [13 to 21].9.5 24.9.5 25.9.5			
7.7.7	Significance of Residual Cumulative Effects	Predicted changes on intermediate components and their potential to cumulatively interact with other projects and activities will be integrated into significance determinations for residual cumulative effect on receptor VCs.	6 12 13 to 21 24 25	6.11.2 Tables 6.11-1, 6.11-2 12.9 [13 to 21].9.5 24.9.5 25.9.5			
		The significance of each cumulative residual effect will be discussed.					
		The evaluation of significance will be completed by comparing cumulative effects against thresholds, standards, trends or objectives relevant to the receptor VC and as defined in each assessment chapter.					
		Following the determination of significance, the confidence or scientific uncertainty in the analyses and conclusions will be discussed.					
		A summary table with the significance evaluation, and estimates of likelihood and confidence for all cumulative residual effects on receptor VCs will be included.					
7.8	Follow-up Monitoring Programs	The Application will describe the approach used to identify and develop any proposed follow-up strategies.	6 35	6.11.3.3 35.3, 35.4			
		The full details of follow-up programs will be summarized in relevant mitigation and monitoring plans. These plans will be summarized in this section of the Application. The summary will include:					
		• identification of the measures to evaluate the accuracy of original prediction of effects;					
		• identification of the measures to evaluate the effectiveness of proposed mitigation measures;					
		• proposal of an appropriate strategy to apply in the event that original predictions of effects and mitigation effectiveness are not as expected. This will include references to further mitigation, involvement of key stakeholders, government agencies, and any other measures deemed necessary to manage the issue.					
		Follow-up monitoring will only be provided for those residual effects for which there is uncertainty associated with the conclusions of the EA, or for which the performance of mitigation measures is not well understood.					
8	Predictive Studies	This section of the Application will contain a description of the methods and results of predictive studies that were undertaken to characterize the effects of the Project on intermediate components (i.e., air quality, noise, hydrogeology, surface water quantity, and terrain and soil).	5 7 8 9 10 11	 7.4 to 7.6 8.4 to 8.6 9.4 to 9.6 10.4 to 10.6 11.4 to 11.6	5-C 7-A, 7-B, 7-C 8-A, 8-B 9-A, 9-B 10-A, 10-B, 10-C 11-A, 11-B, 11-C, 11-D		
		For each intermediate component in the Predictive Study section of the Application, a description of the Project setting, Regulatory and Policy Framework, baseline studies, scoping process, predictive study methods and results, mitigation and management, and characterization of predicted changes in the condition of the intermediate component will be provided.	5 7 8 9 10 11	 7.1 to 7.8 8.1 to 8.8 9.1 to 9.8 10.1 to 10.8 11.1 to 11.8	5-C 7-A, 7-B, 7-C 8-A, 8-B 9-A, 9-B 10-A, 10-B, 10-C 11-A, 11-B, 11-C, 11-D		
		Linkages between the intermediate components and receptor VCs will be identified and a diagram showing these pathways will be included.	7 8 9 10 11	7.4.1, 7.9; Figure 7.9-1 8.4.1, 8.9; Figure 8.9-1 9.4.1, 9.9; Figure 9.4-1 10.4.1; Figure 10.4-1 11.9.1; Figure 11.9-1			

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
8.1	Air Quality	The Application will briefly introduce Air Quality as an intermediate component, referencing its importance in conservation of local vegetation and soil resources, wildlife, and human health values.	7		29.2	7-A, 7-B, 7-C	
8.1.1	Regulatory and Policy Framework	The Application will include a description of the legal and policy framework that regulates air quality, both provincially and federally, including relevant legislation and applicable provincial and regional best management practices and guidance documents that will be followed. These will include:	7	7.2			
		• *Canadian Environmental Protection Act* (1999);	7	7.2			
		• National Ambient Air Quality Objectives (NAAQOs);	7	7.2			
		• Canada Wide Standards (CWS) for $PM_{2.5}$ and O_3 (CCME 2000);	7	7.2			
		• BC *Environmental Management Act* (2003) and *Waste Discharge Regulation* (BC Reg. 320/2004);	7	7.2			
		• BC Ambient Air Quality Objectives (BC MOE 2009);	7	7.2			
		• The Pollution Control Objectives for the Mining, Smelting, and Related Industries of British Columbia (BC MOE 1979);	7	7.2			
		• Guideline for Air Quality Dispersion Modelling in British Columbia (BC MOE 2008b);	7	7.2			
		• Air Monitoring Site Selection and Exposure Criteria (BC MWLAP 2003); and	7	7.2, 7.3.3			
		• Water and Air Baseline Monitoring Guidance Document for Mine Proponents and Operators (BC MOE 2011).	7	7.3.3			
8.1.2	Baseline Characterization	The Application will provide the regional and local overview for meteorological and air quality conditions. Regional meteorological conditions described will include:					
		• regional winds;	7	7.3.3.1, 7.3.4.1		7-A	
		• regional hydroclimate, including trends due to climate change;	7 32	7.3.1.1 32.7			
		• cyclical climate trends (e.g., El Niño);	32	32.7			
		• orographic effect;	5 10 32	 10.3.1 32.2.1		5-C 10-A	
		• temperature, including trends due to climate change; and	7 32	7.3.3.1, 7.3.4.1 32.7		7-A	
		• snow depth, including trends due to climate change	5 7 10 32	 7.3.3.1 10.3.5 32.7		5-C 7-A	
		The Application will indicate the sources of the regional overview data, including the time frame and data collection methods where available.	7	7.3		7-A, 7-B	
		The Application will describe traditional ecological or local knowledge, where available and relevant to air quality.	7	7.4.1.3			
		The Application will describe existing baseline meteorological conditions based on data from regional and Project meteorological stations (Figure 8.1-1). Local meteorological conditions will be described with respect to:					
		• wind (velocity, direction, spatial and temporal variability);	7	7.3.3.1		7-A	
		• precipitation (volume, frequency, type, spatial and temporal variability);	7	7.3.3.1		7-A	
		• air temperature (averages, extremes spatial and temporal variability);	7	7.3.3.1		7-A	
		• humidity (averages, extremes, spatial and temporal variability);	7	7.3.3.1		7-A	
		• solar radiation (total, net, averages, extremes, spatial and temporal variability); and	7	7.3.3.1		7-A	
		• evaporation (total, net, averages, extremes, spatial and temporal variability).	5			5-C	

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
8.1.2 *(cont'd)*	Baseline Characterization *(cont'd)*	The Application will describe baseline air quality conditions with respect to concentrations of criteria air contaminants (CACs), including, but not limited to:					
		• total suspended particulates (TSP);	7	7.3.3.2		7-B	
		• particulate matter ($PM_{2.5}$ and PM_{10});	7	7.3.3.2		7-B	
		• nitrogen oxides;	7	7.3.3.2		7-B	
		• sulphur oxides; and	7	7.3.3.2		7-B	
		• carbon monoxide.	7	7.3.3.2		7-B	
8.1.3	Establishing the Scope of the Assessment for Air Quality		7	7.4			
8.1.3.1	Selecting Intermediate Components	The rationale for including air quality in the Application will be described, and this rationale will include a consideration of the information outlined in Section 7.4 of the AIR.	7	7.4			
		Justification for selecting different Criteria Air Contaminants (CACs) as indicators to measure changes to air quality will be provided.	7	7.4.1			
		The CACs that are proposed to be modelled include, but may not be limited to:					
		• total suspended particulates;	7	7.4.1			
		• particulate matter ($PM_{2.5}$ and PM_{10});	7	7.4.1			
		• emission and concentrations of:	7	7.4.1			
		– nitrogen oxides;	7	7.4.1			
		– sulphur oxides; and	7	7.4.1			
		• carbon monoxide.	7	7.4.1			
8.1.3.2	Assessment Boundaries for Air Quality	The Application will include a rationale and description of the air quality modelling domain that was selected for analysis. Any changes to this modelling domain will be described and justified in the Application.	7	7.4.2.1		7-C	
		The Application will include dispersion modelling results for the Construction and Operation phases of the Project.	7	7.6, 7.6.2, 7.6.3			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6	6.4.2			
		• a description and rationalization of the other boundaries for the VC; and	6	6.4.2			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6	6.4.2			
8.1.3.3	Identifying Key Potential Effects on Air Quality	A discussion of how air quality may be affected by interaction with Project components and physical activities for each Project phase will be provided in the Application.	7	7.4.1, 7.9			
8.1.4	Predictive Study Methods for Air Quality		7	7.5	7-C		
8.1.4.1	Air Quality Emission Inventory	The Application will describe the emission types and sources of air emissions from the Project during the Construction and Operation phases.	7	7.5.1			
		An emission inventory will be compiled to identify and enumerate all point, fugitive, and mobile sources.	7	7.5.1			
		US-EPA emission factors will be used for sources where emission rates are not available.	7	7.5.1			
8.1.4.2	Air Quality Dispersion Model	Predictions of ambient air quality will be made using CALMET (i.e., for meteorological inputs) and CALPUFF; modelling predictions will be made for a number of receptors including:					
		• worker camps;	7	7.5			
		• temporary and permanent residences in the modelling domain;	7	7.5			

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
8.1.4.2 *(cont'd)*	Air Quality Dispersion Model *(cont'd)*	• wetlands;	7	7.5			
		• key wildlife species observations; and	7	7.5			
		• any potentially affected traditional plant harvesting areas.	7	7.5			
		The air quality dispersion model will adopt a conservative approach and use peak emission rates over a 12-month period (i.e., worst case scenario) during the Construction and Operation phases to support modelling predictions.	7	7.5.1			
8.1.5	Predictive Study Results for Air Quality	The Application will also provide detailed results of the air quality dispersion model; predicted concentrations will be added to the measured or expected background levels of the CACs; at a minimum, annual average and maximum concentrations will be provided at key receptor locations.	7	7.6			
8.1.6	Mitigation Measures for Air Quality	Mitigation measures and management plans to reduce air emissions will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5 of the AIR.	7	7.7	29.2		
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize the release of CACs.	4 7	4.6 7.5.1, 7.7	29.2		
8.1.7	Predicted Changes on Air Quality	The Application will describe direct and/or indirect changes on air quality caused by the Project following the methodology outlined in Section 7.6.	7	7.6			
		A summary of predicted changes on air quality will be provided.	7	7.6. 7.8			
		Relevant criteria (e.g., magnitude, frequency, extent) will be used to describe the effect of the Project on air quality and aid reviewers in interpreting results. These results will be presented in comparison to relevant ambient air quality objectives.	7	7.6			
8.1.8	Pathway between Air Quality and Receptor Valued Components	The Application will describe the pathway between air quality and relevant receptor VCs.	7	7.9			
		Dispersion model results (i.e., predicted changes in ambient concentrations of CACs across the model domain and on key receptors) will be used to support the effects assessment and significance determination for soil, wildlife, plants, and human health VCs.	7	7.6, 7.8, 7.9			
		A diagram showing the linkages between the Project, air quality as an intermediate component, and relevant receptor VCs will be provided.	7	7.9 Figure 7.9-1			
8.1.9	Summary for Predicted Changes on Air Quality	The main conclusions of predicted Project-related changes to air quality will be summarized.	7	7.8, 7.11			
8.1.10	Cumulative Effects Assessment	The potential for other project and activities to interact cumulatively with the Brucejack Project on air quality will be assessed and provided.	7	7.10			
8.2	Noise	The Application will briefly introduce Noise as an intermediate component, referencing its importance in the conservation of wildlife, fish, and human health values.	8		29.11	8-A, 8-B	
8.2.1	Regulatory and Policy Framework	The Application will provide a description of the Regulatory and Policy Framework surrounding the management of noise issues, referencing relevant legislation, and a list of applicable provincial and regional best management practices and guidance documents to be implemented, which include:	8	8.2			
		• Guidance for Evaluating Human Health Impacts in Environmental Assessment (Health Canada 2011);	8	8.2			
		• Effects of Noise and Reverberation on Speech (Levitt and Webster 1991);	8			8-B	
		• Using a change in percentage highly annoyed with noise as a potential health effect measure for projects under the Canadian Environmental Assessment Act (Michaud, Bly, and Keith 2008);	8	8.2			
		• Environmental Code of Practice for Metal Mines (Environment Canada 2009)	8	8.2			
		• BS 5228: Code of Practice for Noise and Vibration Control on Construction and Open Sites (British Standards Institution 2009);	8	8.2			
		• Road and Rail Noise: Effects on Housing (Canada Mortgage and Housing Corporation 1986);	8	8.2			
		• Description, measurement and assessment of environmental noise – Part 1: Basic quantities and assessment procedures (ISO 2003); and	8			8-B	
		• Guidelines for Community Noise (World Health Organization 1999).	8	8.2			

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
8.2.2	Baseline Characterization	The Application will describe existing regional and local baseline noise conditions, and will include data collection methods, time frames, and summaries of any results.	8	8.3		8-A	
		The Application will describe traditional ecological or community knowledge, where available and relevant to the noise effects assessment.	8	8.4.2			
8.2.3	Establishing the Scope of the Predictive Study for Noise		8	8.4			
8.2.3.1	Selecting Intermediate Components	The rationale for choosing and assessing noise in the Application will be described, and will include a consideration of the information outlined in Section 7.4 of the AIR.	8	8.4			
		Justification for selecting different indicators to measure changes in noise levels will be provided and include:	8	8.1, 8.2, 8.4			
		• A-weighted sound pressure level (in dB) at the nearest human and sensitive wildlife receptors; and	8	8.1, 8.2.1, 8.2.2			
		• daytime and night time sound levels.	8	8.2.1, 8.2.2			
8.2.3.2	Assessment Boundaries	The Application will include a rationale and description of the noise modelling domain selected to analyze noise.	8	8.4.2			
		The Application will conduct noise modelling for the Construction and Operation phases of the Project for the temporal periods described in the methodology (Section 7.4). Any changes to this modelling domain will be described and justified in the Application.	8	8.4.2.2, 8.6.1, 8.6.2			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6	6.4.2			
		• a description and rationalization of the other boundaries for the intermediate component; and	6	6.4.2			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6	6.4.2			
8.2.3.3	Identifying Key Potential Effects on Noise	A discussion of how changes in noise levels may be affected by interactions with Project components and physical activities for each Project phase will be provided in the Application	8	8.4.3, 8.9			
		The Application will provide a detailed discussion and identify key Project-noise interactions affecting sound levels using the scoping approach outlined in Section 7.5.	8	8.4.3, 8.9			
8.2.4	Predictive Study Methods for Noise	The Application will describe the methods and standards used to assess changes in noise levels. This information will include a description of the predictive model used, and its inputs, assumptions, and limitations.	8	8.5		8-B	
		The Application will identify the sources of increased noise levels from surface blasting (Construction phase only), crushing, and equipment operation. Changes in noise levels will be modelled for the Construction and Operation phases of the Project, point and mobile sources of noise, and tonal and impulsive noise.	8	8.4.1, 8.4.3, 8.5.2, 8.5.3			
8.2.5	Predictive Study Results for Noise	The Application will describe the nature and extent of potential increases in ambient noise levels resulting from activities during the Construction and Operation phases of the Project.	8	8.6			
		The Application will provide the following information:					
		• identification of all potential noise-sensitive receptors and their locations relative to the Project area;	8	8.6, 8.5.1			
		• delineation of the distance of the Project to potential receptors using maps that indicate noise levels at various distances from the Project site and identify all affected receptors;	8	8.6			
		• summary of baseline sound levels (measured or estimated) for both daytime (L_d) and night time (L_n) at receptor locations;	8	8.3.1, 8.3.4		8-A	
		• description of the methods used to obtain the baseline and predicted noise levels, including detailed information on how the noise assessment was conducted;	8	8.3.4		8-A	
		• identification of potential noise sources during all Project phases through Closure (e.g., blasting, traffic, heavy equipment, or sirens); and	8	8.6, 8.4.3			
		• comparison of baseline noise levels with predicted noise levels at sensitive receptor locations during all Project phases through Closure during daytime and night time.	8	8.6			

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
8.2.6	Mitigation Measures for Noise	Mitigation measures and management plans to reduce noise levels will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5 of the AIR.	8	8.7	29.11		
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize noise.	4 8	4.6 8.7	29.11		
8.2.7	Predicted Changes on Noise	The Application will describe direct and/or indirect changes on noise caused by the Project following the methodology outlined in Section 7.6. A summary of predicted changes on noise will be provided.	8	8.8, 8.11			
		Relevant characterization criteria (e.g., magnitude, frequency, extent) will be applied to noise predictive study results to describe the effect of the Project on noise and aid reviewers in interpreting results. These results will be presented in comparison to relevant guidelines.	8	8.8			
8.2.8	Noise as a Pathway between Noise and Receptor Valued Components	The Application will describe the linkages between noise and relevant receptor VCs.	8	8.9			
		Noise model results (i.e., predicted changes in noise levels across the model domain and on key receptors) will be used to support the effects assessment and significance determination for wildlife, fish, and human health VCs.	8	8.6			
		A diagram showing the linkages between the Project, noise as an intermediate component, and relevant receptor VCs will be provided.	8	8.9 Figure 8.9-1			
8.2.9	Summary for Predicted Changes on Noise	The main conclusions of predicted Project-related changes to noise levels will be summarized.	8	8.8 Table 8.8-1			
8.2.10	Cumulative Effects Assessment	The potential for other project and activities to interact cumulatively with the Brucejack Project on noise levels will be assessed and provided.	8	8.10			
8.3	Hydrogeology	The Application will briefly describe hydrogeology as an intermediate component, referencing its importance in the conservation of surface water quality and quantity.	5 9		29.19	5-C 9-A, 9-B	
8.3.1	Regulatory and Policy Framework	The Application will include a description of the Regulatory and Policy Framework surrounding the management of groundwater, including relevant legislation, and a list of applicable provincial and regional best management practices and guidance documents to be implemented, which include:	9	9.2			
		• *BC Water Act* (1996h);	9	9.2			
		• *British Columbia Water Quality Guidelines for Protection of Freshwater Aquatic Life and Drinking Water* (BC MOE 2010);	9	9.2			
		• *Canadian Water Quality Guidelines for the Protection of Aquatic Life* (CCME 2012b);	9	9.2			
		• *Canada Water Act* (1985a);	9	9.2			
		• *Water Protection Act* (1996a); and	9	9.2			
		• *Fisheries Act* (1985c).	9	9.2			
8.3.2	Baseline Characterization of Hydrogeology	The Application will describe the hydrogeology of the proposed Project area in terms of both groundwater quantity and groundwater quality. The baseline description will be in accordance with guidelines from *Water and Air Baseline Monitoring Guidance Document for Mine Proponents and Operators* (BC MOE 2011). Results of the information review and field investigations will allow for:	9	9.3		9-A	
		• delineation of regional, and local groundwater flow patterns and rates;	9	9.3			
		• discussion of the hydrogeologic, hydrologic, geomorphic, climatic and anthropogenic controls on groundwater flow;	9	9.3			
		• characterization of hydrogeological context (e.g., hydrostratigraphy with aquifers and aquitards, major faults etc.) including the delineation of key stratigraphic and hydrogeologic boundaries;	9	9.3		9-A	
		• characterization of the physical properties of relevant hydrogeological units (e.g., hydraulic conductivity, transmissivity, saturated thickness, storativity, porosity, specific yield);	9	9.3		9-A	
		• description of hydrogeologic cross sections with measured heads, seasonal range of variability, and relevant geologic units;	9	9.3		9-A	

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8.3.2 *(cont'd)*	Baseline Characterization of Hydrogeology *(cont'd)*	• identification of bedrock fracture and fault zones and description of the sizes and orientations of any such features in relation to groundwater flow;	9	9.3		9-A, 9-B	
		• description of baseline groundwater level data for regional and local flows in all aquifer units (overburden and bedrock units);	9	9.3		9-A	
		• description of seasonal variations in groundwater levels, flow regime, and quality;	9	9.3		9-A	
		• delineation and characterization of groundwater and surface water interactions including the locations of groundwater discharge to surface water and surface water recharge to groundwater;	9	9.3		9-A	
		• discussion of temporal changes in groundwater flow (e.g., seasonal and long term changes in water levels);	9	9.3		9-A	
		• description of baseline groundwater and baseflow quality;	9 13	9.3		9-A 13-C	
		• characterization of groundwater quality including physical parameters, major ions, nutrients, total metals and dissolved metals;	9	9.3		9-A	
		• indication of whether permafrost conditions exist in the Project area and description of the configuration of frozen ground and taliks and the influence on groundwater flow, if these conditions do exist; and	9			9-A	Permafrost conditions not present
		• description and location of any groundwater sources used as drinking water in the study area including their current use and potential for future use.	9			9-A	
		Baseline characterization of the hydrogeology in the Project area will be supported by an appropriate hydrogeologic model. Related to the hydrogeologic model, the following information will be provided in the Application:	9	9.3			
		• rationale for the selected model;	9			9-B	
		• a detailed conceptual model;	9	9.3		9-B	
		• model input parameters and boundary conditions will be clearly defined, which will be based on a sufficiently large data set and be conservative in nature;	9	9.3		9-A, 9-B	
		• results of model calibration against baseline conditions using site-specific groundwater monitoring data, with areas of interest (potential for interaction with receiving environment, underground workings, Brucejack Lake, etc.) broken out in greater detail in the plots of calibration performance and related discussion; and	9	9.3		9-B	
		• results of a sensitivity analysis to climatic variations (e.g., recharge) and hydrogeologic parameters (e.g., hydraulic conductivity), with resulting figures presented with the upper and lower predicted bounds and expected case highlighted.	9	9.3		9-B	
		The Application will indicate the sources of the baseline data, including the time frame and data collection methods. Any assumptions will be documented, and margins of error or degree of uncertainty will be reported where appropriate.	9	9.3		9-A	
8.3.3	Establishing the Scope of the Assessment for Hydrogeology		9	9.4			
8.3.3.1	Selecting Intermediate Components	The rationale for choosing and assessing hydrogeology in the Application will be described, and will include a consideration of the information outlined in Section 7.4 of the AIR.	9	9.4.1			
		Justification for selecting different groundwater VCs (groundwater quantity and quality) will be provided.	9	9.4.1			
		The rationale for choosing hydrogeology indicators will also be presented in the Application.	9	9.4.1			
8.3.3.2	Assessment Boundaries for Hydrogeology	The Application will include:	9	9.4.2			
		• a description and rationalization of the local and regional spatial extent of the hydrogeology assessment; and	9	9.4.2		9-A, 9-B	
		• maps outlining the spatial extent of RSA and LSA for hydrogeology.	9	9.4.2		9-A, 9-B	

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8.3.3.2 *(cont'd)*	Assessment Boundaries for Hydrogeology *(cont'd)*	The preliminary modelling boundaries for hydrogeology is shown in Figure 8.3-1. In general, the model will focus on the potential for direct changes to waterbodies within the LSA (i.e., in the Brucejack Creek and Sulphurets Creek watersheds), but will provide results to a point downstream where the predictions fall within the range of natural variability. Any changes to these modelling boundaries will be described and justified in the Application.	9	9.4			
		Modelling results will be provided for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure as defined in Section 7.4, or a rationale will be provided if one or more phases are not relevant.	9	9.5, 9.6		9-B	
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6	6.4.2			
		• a description and rationalization of the other boundaries for hydrogeology; and	6	6.4.2			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6	6.4.2			
8.3.3.3	Identifying Key Potential Effects on Hydrogeology	A discussion of how hydrogeology may be affected by interactions with Project components and physical activities for each Project phase will be provided in the Application.	9	9.4.3		9-B	
		The Application will provide a detailed discussion and identify key Project-hydrogeology interactions affecting groundwater quantity and quality using the scoping approach outlined in Section 7.5	9	9.4.3			
8.3.4	Predictive Study Methods for Hydrogeology	The Application will describe the analysis methodology and standards used to determine the effects of the proposed Project on groundwater.	9	9.4.3, 9.5		9-B	
		For the local (shallow) groundwater, the Application will consider potential effects on groundwater quantity and quality based on the results of a numerical groundwater model.	9	9.4, 9.5		9-A, 9-B	
		The model will integrate the local hydrogeology with the development of mine site infrastructure and geochemical characterization to allow for the assessment of flow-paths and receiving environment dilution.	9	9.4,			
		The groundwater model will be calibrated with on-site data.	9	9.4		9-A, 9-B	
		Input parameters, boundary conditions and limitations of the model will be discussed in a clear and transparent manner.	9			9-B	Assumptions, which relate to limitations discussed throughout Appendix 9-B.
		A description will be included of steady state and transient models, if applicable.	9	9.4		9-B	
		The accuracy of predictions will be explicitly stated.	9	9.3.4, 9.5		9-B	
		All input parameter estimates (e.g., precipitation, evaporation, stream flows, groundwater flows, soil and rock permeability) reported will include the source of information (either estimates or empirical) and will make reference to measurement standards or collection protocols used, and assumptions built into the data.	9	9.3, 9.4, 9.6.1.3		9-B	
		Input ranges and confidence estimates for parameters will be reported where available.	9	9.4		9-B	Ranges of K from measurements. Calibrated values fall between limits. Not enough data for confidence estimates.
8.3.5	Predictive Study Results for Hydrogeology	Groundwater modelling results will consider both local (shallow) and regional (deep) groundwater flow in relation to:	9			9-B	
		• groundwater levels and flow directions;	9	9.5, 9.6		9-B	
		• groundwater chemistry; and	9 13	9.5, 9.6		9-A 13-C	
		• groundwater recharge (surficial and bedrock aquifers).	9			9-B	Recharge not directly measured, but calibrated results are within expected ranges.

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8.3.5 *(cont'd)*	Predictive Study Results for Hydrogeology *(cont'd)*	The model will also be used to assess Post-closure of the underground workings.	9	9.5, 9.6		9-B	
		Groundwater quality results will be provided for pH, alkalinity, sulphate, cations, major and trace metal / metalloids, nitrogen species etc., and highlight any exceedances of relevant water quality guidelines and objectives.	9	9.6			
8.3.6	Mitigation Measures for Hydrogeology	Mitigation measures and management plans to address groundwater concerns will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5 of the AIR.	9	9.7			
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize changes to groundwater.	4 9	4.6 9.7			
8.3.7	Predicted Changes on Hydrogeology	The Application will describe direct and/or indirect changes on hydrogeological conditions caused by the Project following the methodology outlined in Section 7.6; a summary of predicted changes will be provided	9	9.8			
		Relevant criteria (e.g., magnitude, frequency, extent) will be applied to the discussion of hydrogeology predictive study results to describe the predicted changes and aid reviewers in interpreting results.	9	9.8			
		These results will be presented in comparison to relevant guidelines and/or baseline conditions as appropriate.	9	9.6, 9.8			
8.3.8	Pathway between Hydrogeology and Receptor Valued Components	The Application will describe the linkages between hydrogeology and relevant receptor VCs.	9	9.4			
		Groundwater model results (i.e., predicted changes in groundwater quality at the local and regional scale) will be used to support the effects assessment for surface water quality and hydrology.	5 9 10 13	 9.5, 9.6 10.5, 10.6, 10.9 13.5, 13.6		5-C 9-B 13-C	
		A diagram showing the relationship between the Project, hydrogeological conditions, and links to receptor VCs will be provided	9	9.4			
8.3.9	Summary for Hydrogeology	The main conclusions of predicted Project-related changes to hydrogeology will be summarized.	9	9.10			
8.3.10	Cumulative Effects Assessment	The potential for other project and activities to interact cumulatively with the Brucejack Project on hydrogeological conditions will be assessed and provided.	9	9.10			
8.4	Surface Water Hydrology	The Application will briefly describe surface water hydrology as an intermediate VC, referencing its importance in the conservation of soil resources, terrain stability, aquatic resources, fish and fish habitat, and riparian ecosystems.	10	10.1	29.19	10-A, 10-B, 10-C	
8.4.1	Regulatory and Policy Framework	The Application will include a description of relevant legislation, and list applicable provincial and regional best management practices and guidance documents to be implemented.	10	10.2			
		Relevant legislation includes:	10	10.2			
		• BC *Water Act* (1996h);	10	10.2			
		• Canada *Water Act* (1985a);	10	10.2			
		• BC *Drinking Water Protection Act* (1996a) and,	13	13.1, 13.2			
		• *Fisheries Act* (1985c).	10	10.2			
8.4.2	Baseline Characterization	The Application will describe existing baseline surface water hydrology conditions of the proposed Project area.	10	10.3		10-A	
		Results of the information review and field investigations will allow for the following points, which will also be described in the Application:	10	10.3.3		10-A	
		• delineation of drainage basins, at appropriate scales, for all waterbodies that could potentially be exposed to Project effects;	10	10.3.3.1 Tables 10.3-1 to 10.3-3		10-A	
		• description of baseline hydrologic conditions and regimes based on stream flow analysis and flow monitoring;	10	10.3.4		10-A	

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8.4.2 *(cont'd)*	Baseline Characterization *(cont'd)*	• description of normal and return period baseline statistics for key hydrologic parameters including annual runoff, monthly distribution of runoff, and peak and low flows; and	10	10.3.4		10-A	
		• description of the influence of glaciers on runoff, relationship to climate, and runoff coefficients; and	5 10	 10.3.3.1, 10.3.5		5-C	
		• identification of any local and regional potable surface water resource that could potentially be exposed to Project effects.	21	21.3.3.3 Figure 21.3-4			
		The Application will indicate the sources of the regional and site-specific data, including the time frame and data collection methods where available.	10	10.3.3.1 Tables 10.3-1 to 10.3-4		10-A	
		Any assumptions will be documented, and margins of error or degree of uncertainty will be reported where appropriate.	10	10.3.3.1, 10.3.5, 10.5.1		10-A	
8.4.3	Establishing the Scope of the Surface Water Hydrology Study		10	10.4			
8.4.3.1	Selecting Intermediate Components	The rationale for including surface water hydrology (quantity) in the Application will be described, and will include a consideration of the information outlined in Section 7.3-1 of the AIR.	10	10.4.1			
		Justification for selecting surface water quantity as an intermediate component will be provided.	10	10.4.1			
		The rationale for choosing surface water hydrology indicators will also be presented in the Application.	10	10.4.1			
8.4.3.2	Assessment Boundaries for Surface Water Hydrology	The Application will include:	10	10.4.2			
		• a description and rationalization of the local and regional spatial extent of the assessment; and	10	10.4.2			
		• maps outlining the spatial extent of RSA and LSA of the surface water hydrology assessment.	10	10.4.2.1; Figure 10.4-2			
		The preliminary regional assessment boundary for surface water hydrology is shown in Figure 8.4-2 of the AIR. Any changes to these modelling boundaries will be described and justified in the Application.	10	10.4.2.1			
		Modelling results will be provided for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure as defined in Section 7.4, or a rationale will be provided if one or more phases are not relevant.	10	10.6.1, 10.6.2, 10.6.3			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6 10	6.4.2 10.4.2			
		• a description and rationalization of the other boundaries for surface water hydrology; and	6 10	6.4.2 10.4.2			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6 10	6.4.2 10.4.2			
8.4.3.3	Identifying Key Potential Effects on Surface Water Hydrology	The Application will provide a detailed discussion and identify key Project-surface water hydrology interactions affecting water quantity using the scoping approach outlined in Section 7.5.	10	10.4.3			
8.4.4	Predictive Study Methods for Surface Water Hydrology	The Application will describe the methods and standards used to identify effects on surface water quantity.	10	10.5.1, 10.5.2, 10.5.3			
		Two different approaches will be employed to estimate the effects of the Project on the hydrologic indicators (annual runoff, monthly distribution of runoff, peak and low flows): a water balance model for Brucejack Lake, the results of which will be used to estimate the effects of the Project on annual flow volumes and monthly flow distribution in the downstream receiving environment; and regional analysis, which will be used to estimate the effects of the Project on extreme events including peak and low flows.	10	10.5.1			

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
8.4.4 *(cont'd)*	Predictive Study Methods for Surface Water Hydrology *(cont'd)*	For the water balance model, the Application will describe:	5 10	10.5.1		5-C	
		• rationale for the selected model;	5			5-C	
		• a detailed conceptual model;	5			5-C	
		• model input parameters and boundary conditions will be clearly defined, which will be based on a sufficiently large data set and be conservative in nature;	5 10	10.5.1		5-C	
		• results of model calibration against baseline conditions using site-specific hydrometric monitoring data; and	5			5-C	
		• results of a sensitivity analysis to climatic variations (e.g., precipitation) and assumed hydrological characteristics (e.g., runoff coefficients).	5 10	10.6.1		5-C	
8.4.5	Predictive Study Results	Results of the water balance model will facilitate quantitative predictions of changes to surface water hydrology within the Brucejack Creek and downstream environments.	5 10	5.10-7 10.6.1		5-C	
		Potential effects to surface hydrology along the transmission and access road corridors, including changes to glacier ablation along the Knipple Glacier, will be characterized qualitatively.	10	10.6.2, 10.6.3		10-B, 10-C	
		In general, the modelling study will focus on the potential for direct effects to waterbodies within the LSA.	10	10.5, 10.6			
		In all cases, the Application will provide results to a point downstream where the predicted effects fall within the range of natural variability.	10	10.6			
		The Application will provide results for surface water hydrology in the following watersheds:	10	10.5, 10.6		10-B, 10-C	
		• Brucejack Creek;	10	10.6.1			
		• Sulphurets Creek;	10	10.6.1			
		• Unuk River at the international boundary between BC and Alaska;	10	10.6.1			
		• Upper Bowser River;	10	10.5.1.3, 10.6.2, 10.6.3			
		• Upper Salmon River;	10	10.5.1.3			
		• Scott Creek; and	10	10.5.1.3, 10.6.2			
		• Wildfire Creek.	10	10.5.1.3, 10.6.2			
		The Application will describe changes to surface water quantity resulting from activities during each phase of the proposed Project.	10	10.6.1, 10.6.2, 10.6.3			
		Stream flow will be assessed by considering alteration to:	10	10.6.1			
		• annual runoff values;	10	10.6.1.1			
		• monthly distribution of runoff;	10	10.6.1.2			
		• peak and low flows; and	10	10.6.1.3, 10.6.1.4			
		• channel geomorphology.	10	10.6.2			
8.4.6	Mitigation Measures for Surface Water Hydrology	Mitigation measures and management plans to address surface water hydrology concerns will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5 of the AIR.	10	10.7	29.19	5-C	
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize hydrological issues.	4	4.2, 4.6 Table 4.6-1		5-C	
8.4.7	Predicted Changes on Surface Water Hydrology	The Application will describe (e.g., using criteria such as magnitude, duration, and geographic extent) the predicted changes to surface water hydrology resulting from the Project after the implementation of mitigation measures following the methodology outlined in Section 7.6.	10	10.8			

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
8.4.8	Surface Water Hydrology as an Intermediate Pathway to Receptor Valued Components	The Application will describe the linkages between hydrology and relevant receptor VCs.	10	10.4.1, 10.9			
		Hydrological modelling results (i.e., predicted changes in surface water quantity at the local and regional scale) will be used to support the effects assessment for terrain, soil, aquatic resources, fish and fish habitat, and riparian ecosystems.	10 13 14 15	10.9 13.5, 13.6, 13.7 14.5, 14.6, 14.7, 14.8 15.5, 15.6, 15.7, 15.8			
		A diagram showing the links between the Project components and physical activities and its effects on surface water hydrology, and the pathway from surface water hydrology to other receptor VCs will be provided.	10	10.4.3 (Table 10.4-4), 10.4.1 (Figure 10.4.1)			
8.4.9	Summary for Surface Water Hydrology	The main conclusions of predicted Project-related changes to surface water hydrology will be summarized.	10	10.8, 10.11			
8.4.10	Cumulative Effects Assessment	The potential for other project and activities to interact cumulatively with the Brucejack Project on hydrogeological conditions will be assessed and presented.	10	10.10			
8.5	Terrain and Soils	The Application will briefly describe terrain and soils as an intermediate component, referencing its importance in the conservation of soil, terrestrial ecology, surface water quality, fish and fish habitat.	11	11.1, 11.4, 11.9	29.13	11-A, 11-B, 11-C, 11-D	
8.5.1	Regulatory and Policy Framework	The Application will include a description of the legal and policy framework that regulates terrain and soils, both provincially and federally, including relevant legislation and applicable provincial and regional best management practices and guidance documents that will be followed.	11	11.2			
8.5.2	Baseline Characterization	The Application will describe existing regional baseline terrain and soil conditions, with respect to subsidence, terrain stability, and soil quantity and quality.	11 16	11.3		 16-A	
		Traditional ecological or local knowledge will be used when describing regional baseline conditions, where available.	11 16	11.3		 16-A	
		The Application will include a description of baseline conditions related to:					
		• physiography and topography;	11	11.3.1			
		• a description of regional climate, and how it has influenced terrain and soil development;	11	11.3.1			
		• a description of historic and active geomorphic processes, and how this has affected and will affect terrain and soil characteristics;	11	11.3			
		• terrain classification and terrain stability;	11	11.3			
		• soil classification and distribution;	11	11.3			
		• ecologically valuable soil; and	11	11.3			
		• known geohazards.	5 11 16	 11.3.5		5-F 11-A 16-A	
		The information will be supported by terrain and soils mapping of the study area, as per accepted methods.	11 16	11.3		11-D 16-A	
		The mapping will be further supported by traditional ecological knowledge, when and where available.	11 16	11.3		 16-A	
		The Application will indicate the sources of the baseline data, including the time frame and data collection methods.	11 16	11.3.3		 16-A	
		Any assumptions will be documented, and margins of error or degree of uncertainty will be reported where appropriate.	11	11.3			
8.5.3	Establishing the Scope of the Assessment for Terrain and Soil		11	11.4			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
8.5.3.1	Selecting Intermediate Components	The Proponent will provide the rationale for choosing and assessing terrain and soils as an intermediate component in the Application.	11	11.4.1			
		The Application will summarize the terrain and soils sub-components.	11	11.4.2.2			
		The rationale for choosing terrain and soil indicators will also be presented in the Application. The preliminary indicators are terrain stability, soil quality, and soil quantity.	11	11.4.2.2			
8.5.3.2	Assessment Boundaries for Terrain and Soil	The Application will include:					
		• a description and rationalization of the local extent of the assessment relative to terrain and soil; and	11	11.4.3.1			
		• maps outlining the spatial extent of the RSA and LSA for terrain and soil	11	11.4.3.1			
		Preliminary Assessment Boundaries are presented in Figure 8.5-1. The LSA is defined by a buffer extending to either the height of land, a 1.0 km buffer around the outer limits of the proposed infrastructure and linear developments, or other natural ecologically defensible borders (e.g., watershed boundaries). Any changes to these boundaries will be described and justified in the Application.	11	11.4.3			
		Results will be provided for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure, or a rationale will be provided if one or more phases are not relevant.	11	11.4.3.2			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6 11	6.4.2 11.4.3.3			
		• a description and rationalization of the other boundaries for terrain and soil; and	6 11	6.4.2 11.4.3.3			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6 11	6.4.2 11.4.3.3			
8.5.3.3	Identifying Key Potential Effects on Terrain and Soil	A discussion of how terrain and soil may be affected by interactions with Project components and physical activities for each Project phase will be provided in the Application.	11	11.4.4			
		The Application will provide a detailed discussion and identify key Project-terrain and soil interactions using the scoping approach outlined in Section 7.5 of the AIR.	11	11.4.4			
8.5.4	Predictive Study Methods for Terrain and Soil	The Application will describe the analysis methods and standards used to determine changes on the condition of terrain and soil caused by Project components and activities.	11	11.5			
8.5.5	Predictive Study Results for Terrain and Soil	Information will include a summary of existing geohazards, a description of the interactions between the Project and terrain, a summary of how subsidence will be addressed during minesite design, predictions of soil loss, and predictions of Project effects on soil quality.	11	11.3.5, 11.6, 11.8		11-A, 11-B, 11-C, 11-D	
		The discussion will focus on the mine infrastructure footprint, and potential change to terrain and soil features within the LSA.	11	11.4.3, 11.6			
		The Application will provide predictive study results on the stability of terrain features based on terrain stability class ratings.	11	11.6.3, 11.7.4, 11.8.3			
		This section will address potential effects to infrastructure (on-site and off-site) resulting from surface subsidence associated with underground mining.	11			11-C	
		The Application will also assess changes on soil quality and quantity as a result of the Project.	11	11.8			
8.5.6	Mitigation Measures for Terrain and Soils	The Application will describe proposed measures available to manage the terrain and soil effects discussed and may include any one of the type of mitigation measures described in Section 7.5 of the AIR.	11	11.7	29.13		
		Relevant management plans will be referenced as appropriate.	29		29.13		

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
8.5.7	Predicted Changes on Terrain and Soils	The Application will describe direct and/or indirect changes on terrain and soils caused by the Project following the methodology outlined in Section 7.6.	11	11.4.4, 11.6, 11.8			
		Relevant characterization criteria (e.g., magnitude, frequency, extent) will be applied to terrain and soils predictive study results to describe the changes and aid reviewers in interpreting results. These results will be presented in comparison to relevant guidelines.	11	11.8			
8.5.8	Terrain and Soils as a Pathway to Receptor Valued Components	The Application will describe the linkages between terrain and soils and relevant receptor VCs.	11	11.9			
		Terrain and soils mapping and predictive studies results will be used to support the effects assessment for terrestrial ecology, surface water quality, fish and fish habitat.	11 13 14 15 16	11.9 13.5, 13.6, 13.7 14.5, 14.6, 14.7 15.4, 15.5, 15.6, 15.7, 15.8 16.5, 16.5	29.13		
		A diagram showing the links between the Project components and physical activities and its effects on terrain and soil, and the pathway from terrain and soils to other receptor VCs will be provided.	11	Figure 11.9.1			
8.5.9	Summary for Terrain and Soils	The main conclusions of predicted Project-related changes to terrain and soils will be summarized.	11	11.11			
8.5.10	Cumulative Effects Assessment	The potential for other project and activities to interact cumulatively with the Brucejack Project on terrain and soil conditions will be assessed and presented.	11	11.10			
9	Assessment of Potential Environmental Effects	This section of the Application will assess the potential effects of the Project on receptor valued ecosystem and human components, including abiotic (climate and surface water quality), and biotic (aquatic resources, fish, wildlife, vegetation and ecosystems) aspects of the environment.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	[7 to 25].4	29.2, 29.3, 29.4, 29.5, 29.9, 29.10, 29.11, 29.12, 29.13, 29.15, 29.17, 29.18, 29.19, 29.20, 29.21	7-A, 7-B, 7-C 8-A, 8-B, 8-C 9-A, 9-B 10-A, 10-B, 10-C 11-A, 11-B, 11-C, 11-D 12-A 13-B, 13-C, 13-E 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A, 18-B, 18-C 19-A, 19-B 20-A, 20-B 21-A, 21-B, 21-C, 21-D, 21-E, 21-F, 21-G 22-A, 22-B 23-A, 23-B 24-A, 24-B, 24-C, 24-D 25-A, 25-B, 25-C	

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9 *(cont'd)*	Assessment of Potential Environmental Effects *(cont'd)*	The Application will indicate the predicted effects of the Project during the Construction, Operation, Closure, and Post-closure phases of the Project.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7.5, 7.6 8.4, 8.5 9.4, 9.5 10.4, 10.5 11.4, 11.5 12.4, 12.5 13.4, 13.5, 13.6 14.4, 14.5 15.4, 15.5 16.5 17.4, 17.5 18.4, 18.5 19.4, 19.5 20.4, 20.5 21.4, 21.5 22.4, 22.5 23.4, 23.5 24.4, 24.5 25.4, 25.5	29.2, 29.3, 29.4, 29.5, 29.9, 29.10, 29.11, 29.12, 29.13, 29.15, 29.17, 29.18, 29.19, 20.20, 29.21		
		Mitigation to reduce potential effects will be described, and residual effects identified.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 30	7.7, 7.8 8.7, 8.8 9.7, 9.8 10.7, 10.8 11.7, 11.8 12.7, 12.8 13.5, 13.6 14.5, 14.6 15.5, 15.6 16.5, 16.6 17.5, 17.6 18.5, 18.6 19.5, 19.6 20.5, 20.6 21.5, 21.6 22.5, 22.6 23.5, 23.6 24.5, 24.6 25.5, 25.6 30.11	29.2, 29.3, 29.4, 29.5, 29.9, 29.10, 29.11, 29.12, 29.13, 29.15, 29.17, 29.18, 29.19, 20.20, 29.21		
9.1	Climate	GHG emissions from the Project will be addressed in this section of the Application, and the potential risks of climate change on Project components will be addressed under Effects of the Environment on the Proposed Project (Chapter 20)	12 32	12.[1-10] 32.7	29.2		
9.1.1	Baseline Characterization	The Application will provide an overview of the GHG setting. GHGs discussed will include those potentially affected by the Project, such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_ZO), sulphur hexafluoride (SF_6), hydrofluorocarbons, and perfluorocarbons.	12	12.1, 12.3.2, 12.3.2.1, 12.3.2.2			
		The Application will provide a summary of historical activities related to climate and GHG emissions on relevant provincial, national, and international scales.	12	12.3.2, 12.3.2.1, 12.3.2.2			
		The Application will provide a summary overview of the scientific background regarding climate, GHGs, and climate change applicable to northwestern BC.	12 32	12.3.1, 12.3.2.2 32.2, 32.7			
		The Application will indicate the sources of scientific background data, including the time frame and data collection methods where available.	12	12.3.1, 12.3.2, 12.3.2.1, 12.3.2.2			
		The Application will describe traditional ecological or local knowledge, where available and relevant to the climate effects assessment.	12	12.4.1, 12.4.1.2, 12.4.1.3			

Application Information Requirements			Application/Environmental Impact Statement				
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9.1.2	Regulatory and Policy Framework	The Application will include a description of the Project's Regulatory and Policy Framework, including relevant legislation, and list applicable provincial and regional best management practices and guidance documents, including:	12	12.2, 12.2.1			
		• *Incorporating Climate Change Considerations in Environmental Assessment* (Canadian Environmental Assessment Agency 2003);	12 32	12.1, 12.2, 12.4.1.3, 12.6.2, 12.10 32.7			
		• Copenhagen Accord (2009); *Canadian Environmental Protection Act* (1999);	12	12.2, 12.2.1			
		• *Clean Air Regulatory Agenda* (Environment Canada 2013);	12	12.2			
		• *Federal Sustainable Development Act* (2008b);	12	12.2			
		• *Federal Sustainable Development Strategy* (Environment Canada 2010);	12	12.2			
		• Canada *On-road Vehicle and Engine Emission Regulations* (SOR/2003-2);	12	12.2			
		• BC *Climate Action Plan* (BC MOE 2008a);	12	12.2			
		• BC *Greenhouse Gas Reduction (Cap and Trade) Act* (Bill 18 - 2008);	12	12.2, 12.2.1			
		• BC *GHG Reduction (Vehicle Emissions Standards) Act* (Bill 39 - 2008);	12	12.2			
		• BC *Greenhouse Gas Reporting Regulation* (B.C. Reg 376/2010); and	12	12.2, 12.2.1			
		• BC *Environmental Management Act* (2003).	12	12.2			
		The Regulatory and Policy Framework for GHG emissions reporting and reduction requirements, including any potential effects on carbon sinks, will be provided.	12	12.2, 12.2.1, 12.6.1.2, 12.7, 12.10			
9.1.3	Establishing the Scope of the Climate Study		12	12.4			
9.1.3.1	Selecting Receptor Valued Components	The rationale for choosing and assessing climate in the Application will be described, and will include a consideration of the information outlined in Section 7.4 of the AIR.	12	12.1, 12.4, 12.4.1, 12.4.1.1, 12.4.1.2, 12.4.1.3			
		The rationale for choosing climate indicators will also be presented in the Application. The preliminary indicator identified for climate is GHG emissions.	12	12.1, 12.4, 12.4.1, 12.4.1.1, 12.4.1.3			
9.1.3.2	Assessment Boundaries	The Application will include a description and rationalization of the local and regional spatial extent of the assessment relative to the receptor VC.	12	12.4, 12.4.2, 12.4.2.1			
		The effects assessment will be conducted for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure.	12	12.4, 12.4.2, 12.4.2.2			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6 12	6.4.2 12.4			
		• a description and rationalization of the other boundaries for the VC; and	6 12	6.4.2 12.4			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6 12	6.4.2 12.4			
9.1.3.3	Identifying Potential Effects	A discussion of how VCs may be affected by interactions with Project components and physical activities for each Project phase will be provided in the Application.	12	12.4.3, 12.4.3.1, 12.4.3.2, 12.4.3.3, 12.5.1			
9.1.4	Emissions Inventory and Mitigation		7 12	7.6.1 12.5, 12.6.1		29.2	

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.1.4.1	Determining Potential Sources of Emissions	The Application will provide a detailed discussion and identify key emission sources affecting climate using the scoping approach outlined in Section 7.5 of the AIR.	12	12.5.1			
		An emission inventory for point and mobile sources will be compiled for the GHG emissions related to the Project.	7 12	7.6.1 12.5.1, 12.6.1, 12.6.1.1, 12.6.1.2			
		The Application will describe the methods and standards used to determine the effects of the Project on GHG emissions.	12	12.4.3, 12.5.1, 12.6, 12.6.1.1			
		The Application will qualitatively assess potential GHG emissions through the Construction and Operation phases.	12	12.4.2.2, 12.6.1, 12.7, 12.7.1, 12.7.1.1, 12.7.1.2, 12.7.1.3, 12.8, 12.10			
		The focus of this effects assessment will be on estimating Project GHG emissions through standardized methods, and making a comparison with sector, provincial, federal, and international levels, consistent with guidance issued by the Agency (2003).	12	12.6, 12.6.1.1, 12.6.1.2, 12.6.2, 12.6.2.1, 12.6.2.2			
		The climate inventory discussion will include:					
		• a discussion of measures considered to minimize the release of GHGs;	12	12.5.2	29.2		
		• comparison of the Project's estimated annual greenhouse gases emissions with the mining industry totals and intensities, where information is available.	12	12.6.2, 12.6.2.2, 12.7, 12.7.1, 12.7.1.2, 12.8, 12.10			
9.1.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to reduce GHG emissions will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5 of the AIR.	12	12.5.2, 12.10	29.2		
		The Application will also include a discussion of applicable Project design changes that were implemented to mitigate effects associated with GHG emissions.	4 12	4.6 12.5.2	29.2		
9.1.5	Residual Effects		12	12.6, 12.8, 12.10			
9.1.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6 of the AIR.	12	12.6, 12.6.1.2, 12.8, 12.10			
		A summary of residual effects on climate VCs will be provided as per Table 7.6-1.	12	12.6 Table 12.6-1			
9.1.5.2	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on climate VCs remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	12	12.7, 12.7.1, 12.7.1.1, 12.8, 12.10			
9.1.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on climate VCs remaining after the implementation of mitigation measures, including any relevant management plan(s).	12	12.7.1.2, 12.8, 12.10	29.2		
		The methodology will follow that outlined in Section 7.6 above and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1.	12	12.8 Tables 12.7.2, 12.8-1			
9.1.5.4	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on climate VCs remaining after the implementation of mitigation outlined in Section 7.6. A risk assessment will be performed if necessary.	12	12.7.1.3			
9.1.5.5	Summary	A table will be provided using the same format at shown in Table 7.6-2 that summarizes the residual effects, their significance, and associated likelihood and confidence of the Project effects on climate.	12	12.7.1 Table 12.7-2			
9.1.6	Cumulative Effects Assessment	The Application will include a justification for why no cumulative effects analysis will be performed for climate (see Section 9.1.4.1).	12	12.1, 12.9, 12.10			
9.2	Surface Water Quality	The Application will briefly describe surface water quality as a receptor VC, referencing its importance in the conservation of ecologically valuable soil, aquatic resources, fish and fish habitat, wildlife and wildlife habitat, and human health.	13	13.1, 13.4.1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.2.1	Baseline Characterization	The Application will describe existing baseline surface water quality conditions of the proposed Project area.	13	13.3		13-A	
		The baseline description will be in accordance with guidelines from *Water and Air Baseline Monitoring Guidance Document for Mine Proponents and Operators* (BC MOE 2011).	13	13.2, 13.3.3.2,		13-A	
		Results of the information review and field investigations will allow for:					
		• characterization of baseline surface water quality at monitoring sites including both lake and stream sites;	13	13.3.3.2		13-A	
		• description of spatial and temporal variation in stream and lake water quality	13	13.3.4		13-A	
		• summary of key water quality parameters including: physical parameters (e.g., pH, hardness, turbidity), major anions, nutrients, cyanides, total organic carbon, and total and dissolved metals; and	13	13.3.4 Tables 13.3-3, 13.3-4, 13.3-5		13-A	
		• comparison of baseline surface water quality to CCME and BC water quality guidelines for protection of aquatic health	13	13.3.4 Tables 13.3-3, 13.3-4, 13.3-5		13-A	
		The Application will indicate the sources of the regional and site-specific data, including the time frame and data collection methods where available.	13	13.3.3.1		13-A	
		Any assumptions will be documented, and margins of error or degree of uncertainty will be reported where appropriate.	13	13.3.3		13-A	
		The Application will describe traditional ecological or local knowledge, where available and relevant to the baseline surface water quality characterization.	13	13.4.1			
9.2.2	Regulatory and Policy Framework	Water quality will be assessed using guidance from the following documents and legislation:	13	13.2		13-A	
		• BC *Water Act* (1996m);	13	13.2			
		• *Canada Water Act* (1985b);	13	13.2			
		• BC *Environmental Management Act* (2003);	13	13.2			
		• Waste Discharge Regulation (B.C. Reg. 320/2004);	13	13.2			
		• *Fisheries Act* (1985c);					
		• Metal Mine Effluent Regulations (SOR/2002-222);	13	13.2			
		• British Columbia Approved and Working Water and Sediment Quality Guidelines (BC MOE 2006a); and	13	13.2			
		• Environmental Quality Guidelines (CCME 1999).	13	13.2			
9.2.3	Establishing the Scope of the Assessment for Water Quality		13	13.4			
9.2.3.1	Selecting Receptor Valued Components	The rationale for choosing and assessing surface water quality in the Application will be described, and will include a consideration of the information outlined in Section 7.4.	13	13.4.1			
		Justification for selecting surface water quality as a receptor VC will be provided.	13	13.4.1			
		Surface water quality will be assessed at release points (e.g., end-of-pipe) and receiving environment locations.	13	13.4.1.5, 13.5, 13.6			
9.2.3.2	Water Quality Study Boundaries	The Application will include:					
		• a description and rationalization of the local and regional spatial extent of the assessment relative to surface water quality; and	13	13.4.1.5			
		• maps outlining the spatial extent of the RSA and LSA of the assessment for surface water quality	13	13.4.1.5; Figure 13.4-1			
		The preliminary assessment boundaries for surface water quality are shown in Figure 9.2-2. Any changes to these modelling boundaries will be described and justified in the Application.	13	13.4.1.5; Figure 13.4-1			
		In general, the assessment will focus on the potential for direct effects to waterbodies within a LSA.	13	13.4.1.5; Figure 13.4-1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.2.3.2 *(cont'd)*	Water Quality Study Boundaries *(cont'd)*	In all cases, the Application will assess effects to a point downstream where the predicted effects fall within the range of natural variability.	13	13.4.1.5; Figure 13.4-1			
		The Application will identify potential effects to surface water quality in the following watersheds:	13	13.4.1.5; Figure 13.4-1			
		• Brucejack Lake;	13	13.4.1.5; Figure 13.4-1			
		• Brucejack Creek;	13	13.4.1.5; Figure 13.4-1			
		• Sulphurets Lake;	13	13.4.1.5; Figure 13.4-1			
		• Sulphurets Creek;	13	13.4.1.5; Figure 13.4-1			
		• Unuk River at the international boundary between BC and Alaska	13	13.4.1.5; Figure 13.4-1			
		• Upper Bowser River;	13	13.4.1.5; Figure 13.4-1			
		• Upper Salmon River;	13	13.3.1, 13.3.2, 13.3.3, 13.4.1.5; Figure 13.4-1			
		• Scott Creek; and;	13	13.4.1.5; Figure 13.4-1			
		• Wildfire Creek.	13	13.4.1.5; Figure 13.4-1			
		The assessment will identify potential effects to surface water quality for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure as defined in Section 7.4, or a rationale will be provided if one or more phases are not relevant.	13	13.4.1.6; Table 13.4-1			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6 13	6.4.2 13.4.1			
		• a description and rationalization of the other boundaries for surface water quality; and	6 13	6.4.2 13.4.1			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6 13	6.4.2 13.4.1			
9.2.3.3	Identifying Potential Effects on Water Quality	A discussion of how surface water quality may be affected by interactions with Project components and physical activities for each Project phase will be provided in the Application.	13	13.4.2 Table 13.4-1			
9.2.4	Effects Assessment and Mitigation		13	13.5, 13.6			
9.2.4.1	Identifying Key Effects	The Application will provide a detailed discussion and identify key project components and activities causing an effect on surface water quality using the scoping approach outlined in Section 7.5.	13	13.5.1 Table 13.5-1			
		The Application will describe the methodology and analysis used to determine the key potential effects of ML/ARD from the proposed Project on surface water quality.	13	13.5.1.2, 13.5.3.2, 13.6.1		5-B, 13-C	
		Potential effects on surface water quality will be assessed for various Project components using both qualitative methods including a combination of best available data and professional judgment/experience and quantitative water quality modelling.	13	13.5, 13.6			
		Qualitative/best judgment assessment approaches will be used for Project components that are not included in the site water balance including the transfer station, airstrip, and transmission line and road access corridors.	13	13.5.3, 13.5.4, 13.6.3			
		In general, quantitative effects will be assessed for primary receiving environments of, and downstream of, Brucejack Lake using output from the surface water quality model.	13	13.5.1, 13.6.2.1, 13.6.2.2, 13.6.2.3			
		Preliminary plans for the model include conceptualizing flow and mass loadings by using baseline water quality, static and kinetic test data, mine plan and process plant, including water treatment plant, water balance. This model will consider the results obtained from a third party study on the hydrodynamic processes of Brucejack Lake.	13	13.6.1		13-C	
		The water quality model for the Project will use a mass balance calculation approach in GoldSim™ to model the water flow and the concentrations of chemical substances as a function of time. The volume inputs to the GoldSim model will be derived from both the site water balance model, and the hydrogeology model.	13	13.6.1		13-C	

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.2.4.1 *(cont'd)*	Identifying Key Effects *(cont'd)*	Hydrodynamic processes in Brucejack Lake will be modeled using PitMod, a one-dimensional physical model designed for short- and long-term predictions of physical water properties in both natural and mine pit lakes.	13	13.6.1		13-B	
		Water quality predictions will be conducted for relevant on-site and receiving environment locations, flow conditions and relevant time-steps in the mine life (i.e., temporal boundaries will include Construction, Operation, Closure, Post-closure, workings flooded and discharging, etc.).	13	13.6.2		13-D, 13-E	
		All geochemical analyses will be presented in a clear and transparent manner, and the methods, assumptions and rationale used to generate source terms and to estimate water quality will be thoroughly explained. Sensitivity analysis and contingency plans will be provided where there are significant uncertainties or risks associated with the predicted water quality.	13	13.6.1		13-C	
		With respect to water quality, the assessment will consider potential effects in relation to suspended solids, metals, nutrients and major ion concentrations of both controlled and uncontrolled site runoff and seepage influenced by the proposed Project.	13	13.5.1,13.5.2,13.5.3, 13.5.4, 13.6.2,13.6.3			
		Receiving water quality will be modelled for relevant locations on-site and downstream of any discharge points at time periods that address all phases of the proposed Project. All modelling work will be presented in a clear and transparent manner, outlining the methods, assumptions and limitations of the model.	13	13.6.1, 13.6.2		13-C	
9.2.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to address surface water quality concerns will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5.	13 35	13.5.2, 13.5.4 35.3, 35.4, 35.5, 35.6	29.2, 29.3, 29.10, 29.13, 29.15, 29.18, 29.19		
		Mitigation may include measures to contain and treat contaminated water, and opportunities for progressive reclamation. Relevant management plans will be referenced as appropriate.	13 35	13.5.2, 13.5.4 35.5.2	29.3, 29.10, 29.13, 29.15, 29.18, 29.19		
9.2.5	Residual Effects	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6.	13	13.5.2.7, 13.5.4.7, 13.6			
		A summary of residual effects on surface water quality will be provided as per Table 7.6-1.	13	13.5.2.7, 13.5.4.7 Tables 13.6-7, 13.6-8			
9.2.5.1	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on surface water quality remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	13	13.7.2.2, 13.7.3.2			
9.2.5.2	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on surface water quality remaining after the implementation of mitigation measures, including any relevant management plan(s). The methodology will follow that outlined in Section 7.6 above and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1.	13	13.7.2.3, 13.7.3.3			
9.2.5.3	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on surface water quality remaining after the implementation of mitigation outlined in Section 7.6. A risk assessment will be performed if necessary.	13	13.7.2.4, 13.7.3.4			
9.2.5.4	Summary	A table will be provided using the same format at shown in Table 7.6-2 that summarizes the residual effects, their significance, and associated likelihood and confidence of Project effects on surface water quality.	13	13.8 Table 13.8-1			
9.2.6	Cumulative Effects Assessment	Following the methods outlined in Section 7.7, the Application will identify historic, present and reasonably foreseeable future projects and activities that may impact surface water quality and that could contribute to potential cumulative effects. All project-related residual effects on surface water quality will be carried forward for consideration into the CEA.	13	13.9			
9.2.7	Follow-up Strategy	If a follow-up program is required for surface water quality, the Application will include a description of the follow-up strategy as outlined in Section 7.8.	35	35.3, 35.4	29.3		
9.3	Aquatic Resources	The Application will briefly describe aquatic resources as a receptor VC, referencing its linkages with surface water hydrology and surface water quality, and its function as a pathway to indirect effects on fish and fish habitat.	14	14.1, 14.4			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.3.1	Baseline Characterization	The Application will describe the baseline condition of aquatic resources of Brucejack Lake, Brucejack Creek, Sulphurets Lake, upper and lower Sulphurets Creek, the tributary streams in the immediate Project area, and the access road corridor.	14	14.3		14-A	
		This section will describe the approach and methods used, and baseline results for key parameters, including:	14	14.3.3		14-A	
		• physical limnology (temperature and light penetration);	14	14.3.4		14-A	
		• sediment quality (particle size, cyanides, nutrients, organic carbon, and total metal concentrations);	14	14.3.4		14-A	
		• stream periphyton community (taxon richness, density, relative abundance, diversity and biomass as chlorophyll);	14	14.3.4		14-A	
		• stream benthic invertebrate community (genus richness, relative abundance, and diversity);	14	14.3.4		14-A	
		• lake phytoplankton community (taxon richness, density, relative abundance, diversity and biomass as chlorophyll);	14	14.3.4		14-A	
		• lake benthic invertebrate community (taxon richness, density, relative abundance, and diversity); and	14	14.3.4		14-A	
		• lake zooplankton community (taxon richness, density, relative abundance, and diversity).	14	14.3.4		14-A	
		The Application will indicate the sources of the baseline data, including the time frame and data collection methods.	14	14.3.3		14-A	
		The Application will describe traditional ecological or local knowledge, where available.					
		A map will be provided of regional and site-specific aquatic resource monitoring.	14	Figures 14.3-2, 14.3-3		14-A	
9.3.2	Regulatory and Policy Framework	The Application will include a description of relevant legislation, and list applicable provincial and regional best management practices and guidance documents to be implemented.	14	14.2, 14.5.3			
		Aquatic resources will be assessed using guidance inclusive of, but not necessarily limited to, the following documents and legislation:	14	14.2			
		• BC *Water Act* (1996m);	14	14.2			
		• *Canada Water Act* (1985b);	14	14.2			
		• BC *Environmental Management Act* (2003);	14	14.2, 14.5, 14.6			
		• Waste Discharge Regulation (B.C. Reg. 320/2004);	14	14.2			
		• *Fisheries Act* (1985c);	14	14.2			
		• Metal Mine Effluent Regulations (SOR/2002-222);	14	14.2, 14.5, 14.6			
		• British Columbia Approved and Working Water and Sediment Quality Guidelines (BC MOE 2006a); and	14	14.2, 14.5, 14.6			
		• Canadian Environmental Quality Guidelines (CCME 1999).	14	14.2, 14.5, 14.6			
9.3.3	Establishing the Scope of the Assessment for Aquatic Resources		14	14.4			
9.3.3.1	Selecting Receptor Valued Components	The rationale for choosing and assessing aquatic resources as a receptor VC in the Application will be described, and will include a consideration of the information outlined in Section 7.4.	14	14.4.1			
		The rationale for choosing aquatic resources indicators will also be presented in the Application.	14	14.4.1			
		The preliminary indicators identified includes primary producer and secondary producer communities (e.g., abundance and diversity of periphyton, phytoplankton, benthic invertebrates, and zooplankton), assessed at receiving environment locations, and changes in sediment quality.					
9.3.3.2	Assessment Boundaries	The Application will include:					
		• a description and rationalization of the local and regional spatial extent of the assessment relative to aquatic resources VCs; and	14	14.4.2			
		• maps outlining the spatial extent of RSA and LSA of the VCs.	14	Figure 14.4-1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.3.3.2 *(cont'd)*	Assessment Boundaries *(cont'd)*	The assessment will focus on the potential for direct effects to waterbodies within the LSA.	14	14.4.2			
		In all cases, the Application will assess effects to a point downstream where the predicted effects fall within the range of natural variability.	14	14.4.2, 14.4.3			
		Any changes to these boundaries will be described and justified in the Application.	14	14.4.2			
		The effects assessment will be conducted for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure, or a rationale will be provided if one or more phases are not relevant.	14	14.4.2.2			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	14	14.4.2			
		• a description and rationalization of the other boundaries for the aquatic resources VCs; and	14	14.4.2			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	14	14.4.2			
9.3.3.3	Identifying Potential Effects	A discussion of how VCs may be affected by interactions with Project components and physical activities for each Project phase will be briefly discussed in the Application.	14	14.4.3			
9.3.4	Effects Assessment and Mitigation		14	14.5			
9.3.4.1	Identifying Key Effects	The Application will describe the nature and extent of potential changes to aquatic resources resulting from activities during each phase of the Project.	14	14.4.3			
		Potential receptors will be identified and included in the assessment of potential aquatic resource effects related to the Project.	14	14.4.3			
		The Application will provide a detailed discussion and identify key project components and activities causing an effect on aquatic resources.	14	14.4.3 Table 14.4-1			
		The Application will describe the methods and standards used to determine the potential effects of the Project on aquatic resources.	14	14.5			
		Potential linkages with other VCs (e.g., fish habitat, vegetation, soils, wildlife) will be identified.	14	14.5			
		With respect to aquatic resources, the assessment will consider potential effects in relation to changes in water quantity, water quality and sediment quality from suspended solids, metals, nutrients and major ion concentrations of both controlled and uncontrolled discharge, site runoff, and seepage influenced by the Project through mechanisms such as tailings and sewage discharge, geochemistry, blasting residues, and erosion.	14	14.5.1.1, 14.5.1.2, 14.5.1.3, 14.5.1.4, 14.5.1.5, 14.5.2.1, 14.5.2.2, 14.5.2.3, 14.5.2.4, 14.5.2.5			
9.3.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to reduce effects on aquatic resources will be identified and discussed.	14	14.5.3		29.3	
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize effects on aquatic resources.	4 14	4.6 14.5.3			
9.3.5	Residual Effects						
9.3.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6.	14	14.6, 14.7			
		A summary of residual effects on aquatic resources VCs will be provided as per Table 7.6-1.	14	Table 14.8-1			
9.3.5.2	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on aquatic resources VCs remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	14	14.7.1, 14.7.2			
9.3.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on the aquatic resources VCs remaining after the implementation of mitigation measures, including any relevant management plan(s).	14	14.7.1.6, 14.7.2.2			
		The methodology will follow that outlined in Section 7.6 above and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1.	14	14.7 Tables 14.7.2, 14.7.3			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.3.5.3 *(cont'd)*	Significance of Residual Effects *(cont'd)*	Effects will be assessed using outputs from the surface water quality model (see Section 8.5) and screening these results against provincial and federal water quality guidelines for the protection of aquatic life.	14	14.6.1.3, 14.7.1.3			
		Significance will be assessed in relation to guidelines and standards, inclusive of but not necessarily limited to:	14	14.7			
		• *Canadian Water Quality Guidelines for the Protection of Aquatic Life* (CCME 2012b);	14	14.2, 14.6, 14.7			
		• *Canadian Sediment Quality Guidelines for the Protection of Aquatic Life* (CCME 2012b);	14	14.2, 14.6, 14.7			
		• *British Columbia Working Water Quality Guidelines (Criteria) Reports for Freshwater Aquatic Life* (Nagpal, Pommen, and Swain 2006b); and	14	14.2, 14.6, 14.7			
		• *British Columbia Working Sediment Quality Guidelines (Criteria) Reports for Freshwater Aquatic Life* (Nagpal, Pommen, and Swain 2006a).	14	14.2, 14.6, 14.7			
9.3.5.4	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on the aquatic resources VCs remaining after the implementation of mitigation outlined in Section 7.6.	14	14.7.1.7, 14.7.2.3, 14.8			
		A risk assessment will be performed if necessary.	14	14.7.2.4			
9.3.5.5	Summary	A table will be provided using the same format at shown in Table 7.6-2 that summarizes the residual effects, their significance, and associated likelihood and confidence of Project effects on the aquatic resources VC.	14	14.8 Table 14.8-1			
9.3.6	Cumulative Effects Assessment	Following the methods outlined in Section 7.7, the Application will identify historic, present and reasonably foreseeable future projects and activities that may impact the aquatic resource VC and that could contribute to potential cumulative effects.	14	14.9.1.2			
		All residual effects on the aquatic resource VC will be carried forward for consideration into the CEA.	14	14.9.2			
9.3.7	Follow-up Strategy	If a follow-up monitoring program is required for aquatic resources, the Application will include a description of the follow-up strategy as outlined in Section 7.8.	14 35	14.5.3 35.3, 35.4	29.3		
9.4	Fish and Fish Habitat	The Application will briefly describe fish and fish habitat as receptor VCs, referencing linkages with noise, surface water hydrology, surface water quality, and aquatic resources.	15	15.1, 15.4.1.3, 15.4.3.1			
9.4.1	Baseline Characterization	The Application will provide a review of the results of previous fish and fish habitat investigations in the regional and Project area, traditional ecological or local knowledge, where available, as well as a summary of Project specific studies that have been completed.	15	15.3.2, 15.3.3.1		15-A, 15-B, 15-C, 15-D	
		This section will summarize fish species composition, relative abundance, and distribution, as well as descriptions of habitat use, life history characteristics, seasonal movements, and metal burdens, for key species in the Unuk River watershed downstream of the mine site.	15	15.3.3, 15.3.4		15-A, 15-B, 15-C, 15-D	
		The Application will indicate the sources of the baseline data, including the time frame and data collection methods.	15	15.3.3		15-A, 15-B, 15-C, 15-D	
9.4.2	Regulatory and Policy Framework	The Application will include a description of relevant legislation, and list applicable provincial and regional best management practices and guidance documents to be implemented.	15	15.2			
		Fish and fish habitat will be assessed using guidance inclusive of, but not necessarily limited to, the following documents and legislation:	15	15.2			
		• *Fisheries Act* (1985c);	15	15.2.1			
		• *Metal Mining Effluent Regulations* (MMER; SOR/2002-222)	15	15.2.2			
		• Federal *Species at Risk Act (SARA)* (2002c);	15	15.2.3			
		• Canadian Biodiversity Strategy (Environment Canada 1995);	15	15.2.4			
		• BC *Water Act* (1996h);	15	15.2.5			
		• BC *Fish Protection Act* (1997);	15	15.2.6			
		• BC *Environmental Management Act* (2003); and	15	15.2.7			
		• *Department of Fisheries and Oceans Policy for the Management of Fish Habitat* (DFO 1991).	15	15.2.1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.4.3	Establishing the Scope of the Assessment for Fish and Fish Habitat		15	15.4			
9.4.3.1	Selecting Receptor Valued Components	The rationale for choosing and assessing fish and fish habitat as receptor VCs in the Application will be described, and will include a consideration of the information outlined in Section 7.4. Preliminary indicators/species include:	15	15.4.1, 15.4.1.3			
		The rationale for choosing fish and fish habitat indicators will also be presented in the Application. Preliminary indicators include:	15	15.4.1, 15.4.1.3			
		• fish (including Dolly Varden (*Salvelinus malma*), Bull Trout (*S. confluentus*), and Pacific salmon (coho, Chinook, and sockeye)); and	15	15.4.1, 15.4.1.3			
		• fish habitat.	15	15.4.1, 15.4.1.3			
9.4.3.2	Assessment Boundaries	The Application will include:	15	15.4.2, 15.4.2.1			
		• a description and rationalization of the local and regional spatial extent of the assessment relative to the fish and fish habitat VCs; and	15	15.4.2, 15.4.2.1			
		• maps outlining the spatial extent of fish and fish habitat study area.	15	15.4.2, 15.4.2.1 Figure 15.4-1			
		The preliminary assessment boundary for fish and fish habitat are shown in Figure 9.4-1. Any changes to these boundaries will be described and justified in the Application.	15	15.4.2, 15.4.2.1			
		The Application will identify and describe the rationale for the temporal boundaries related to the assessment of fish and fish habitat.	15	15.4.2.2			
		The effects assessment will be conducted for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure, or a rationale will be provided if one or more phases are not relevant.	15	15.4.2.2			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6	6.4.2			
		• a description and rationalization of the other boundaries for fish and fish habitat VCs; and	6	6.4.2			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6	6.4.2			
9.4.3.3	Identifying Potential Effects	A discussion of how fish and fish habitat VCs may be affected by interactions with Project components and physical activities for each Project phase will be provided in the Application.	15	15.4.3			
9.4.4	Effects Assessment and Mitigation		15	15.5			
9.4.4.1	Identifying Key Effects	The Application will provide a detailed discussion and identify key project components and activities causing an effect on fish and fish habitat using the scoping approach outlined in Section 7.4.	15	15.4.3.1, 15.4.3.2, 15.4.3.3, 15.4.3.4, 15.5.1.1			
		The assessment will focus on the potential for effects to fish-bearing waterbodies, extending to a point downstream where the effects fall within the range of natural variability.	15	15.5.1.1			
		The Application will identify and assess potential effects on fish and fish habitat during each phase of the Project. Potential effects that will be assessed include:	15	15.5.1.1			
		• direct habitat effects due to construction of mine and associated infrastructure;	15	15.5.1.1			
		• direct and indirect effects on fish health due to changes in water quality, noise and vibration, and loss of productive capacity;	15	15.5.1.1			
		• changes in water quantity and quality in habitats downstream of potential discharges; and	15	15.5.1.1			
		• changes in fish harvesting patterns due to changes in access and human presence.	15	15.5.1.1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.4.4.1 *(cont'd)*	Identifying Key Effects *(cont'd)*	The Application will describe the methods and standards used to determine the effects of the Project on fish and fish habitat, and will consider:	15	15.4.3.1, 15.5.1.1			
		• productive capacity of fish habitat (i.e., link to aquatic resources);	15	15.4.3.1, 15.5.1.1			
		• seasonality of fish utilization and fish-bearing status of potentially affected waterbodies;	15	15.4.3.1, 15.5.1.1			
		• habitat loss or alteration, including aquatic vegetation, riparian vegetation, and sensitive areas such as spawning grounds, nursery areas, overwintering habitat, and migration corridors;	15	15.4.3.1, 15.5.1.1			
		• natural barriers to fish migrations;	15	15.4.3.1, 15.5.1.1			
		• changes in quantity and quality of groundwater entering surface waterbodies;	15	15.4.3.1, 15.5.1.1			
		• rare and/or sensitive species and habitat (as listed by the Committee on the Status of Endangered Species in Canada (COSEWIC) or SARA);	15	15.4.3.1, 15.5.1.1			
		• species of cultural, spiritual, or traditional use importance to First Nations groups;	15	15.4.3.1, 15.5.1.1			
		• traditional ecological knowledge, when and where available;	15	15.4.3.1, 15.5.1.1			
		• changes to fish harvesting; and	15	15.4.3.1, 15.5.1.1			
		• direct (chronic and acute toxicity) and indirect (changes in periphyton and benthic invertebrates) effects to fish due to changes in water chemistry (e.g., suspended solids, nutrients, major ions and metals) from Project-related discharges that may affect surface water quality.	15	15.4.3.1, 15.5.1.1			
		Where applicable, results from water quality, terrain and soils, surface water hydrology and the noise predictive studies will be used to support the effects assessment on fish and fish habitat.	15	15.5.1.1			
9.4.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to reduce effects on fish and fish habitat will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5.	15	15.5.1.2			
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize effects on fish and fish habitat.	4 15	4.6 15.5.1.2			
		Mitigation and/or compensation requirements based on *The Department of Fisheries and Oceans Policy for the Management of Fish Habitat* (1991) and the related principle of No-Net-Loss of the productive capacity of fish habitat will be followed if required.	15	15.5.1.2			
9.4.5	Residual Effects		15	15.6			
9.4.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6.	15	15.6.1, 15.6.2, 15.6.3, 15.6.4			
		A summary of residual effects on fish and fish habitat VCs will be provided as per Table 7.6-1.	15	15.6.1, 15.6.2, 15.6.3, 15.6.4; Table 15.6-5			
9.4.5.2	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on fish and fish habitat VCs remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	15	15.7.1	-	-	
9.4.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on fish and fish habitat VCs remaining after the implementation of mitigation measures, including any relevant management plan(s).	15	15.7.1.3	29.3, 29.7, 29.10, 29.13, 29.14, 29.16	-	
		The methodology will follow that outlined in Section 7.6 above and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1.	15	15.7.1, 15.8		-	
		Significance will be assessed in relation to guidelines and standards, inclusive of but not necessarily limited to the following:	15	15.7.1, 15.8		-	
		• *Canadian Water Quality Guidelines for the Protection of Aquatic Life* (CCME 2012b);	14 15	14.2, 14.6, 14.7 15.6, 15.7		-	
		• *Working Water Quality Guidelines (Criteria) Reports for Freshwater Aquatic Life* (Nagpal, Pommen, and Swain 2006b);	14 15	14.2, 14.6, 14.7 15.6, 15.7		-	
		• Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products (Health Canada 2011);	15	15.3, 15.6, 15.7		-	
		• *Department of Fisheries and Oceans Policy for the Management of Fish Habitat* (DFO 1991).	15	15.2, 15.6, 15.7			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.4.5.4	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on fish and fish habitat VCs remaining after the implementation of mitigation outlined in Section 7.6. A risk assessment will be performed if necessary.	15	15.7.1.4			
9.4.5.5	Summary	A table will be provided using the same format at shown in Table 7.6-2 that summarizes the residual effects, their significance, and associated likelihood, and confidence of Project effects on fish and fish habitat VCs.	15	15.8 Tables 15.7-1, 15.7-2, 15.7-3	29.3, 29.7, 29.10, 29.13, 29.14, 29.16		
9.4.6	Cumulative Effects Assessment	The Application will identify historic, present and reasonably foreseeable future projects and activities that may impact fish and fish habitat VCs and that could contribute to potential cumulative effects.	15	15.9.1			
		All project-related residual effects on fish and fish habitat VCs will be carried forward for consideration into the CEA.	15	15.8, 15.9.2, 15.9.3, 15.9.4, 15.9.5			
9.5	Terrestrial Ecology	The Application will briefly describe terrestrial ecosystems as receptor VCs, referencing linkages with air quality and soil.	16	16.4.1			
9.5.1	Baseline Characterization	The Application will describe the existing condition of terrestrial ecosystems throughout the regional and local study areas. Regional ecological information will include, but not be limited to:	16	16.3, 16.4		16-A	
		• description of factors influencing or limiting the distribution, development and/or productivity of terrestrial ecosystems within the regional area;	16	16.3, 16.4			
		• descriptions of the existing provincial Biogeoclimatic Ecosystem Classification (BEC) units mapped in the regional area; and	16	16.3.4			-
		• identification of the provincially-listed or otherwise sensitive plants, lichens and ecological communities (ecosystems) that are previously reported, or potentially occur, within the regional area.	16	16.3.5, 16.3.8			
		The regional scale information will provide additional context, and will support the cumulative effects assessment.	16	16.3.4			
		Traditional and current knowledge on the cultural and economic use of plants and terrestrial ecosystem resources will be used when describing regional conditions, where available.	16	16.3.6, 16.4.1, 16.4.2.1			
		Project-specific ecological conditions will include:	16				
		• land cover, including natural and anthropogenic classes at a local scale;	16	16.3.4.8 to 16.3.4.11			
		• the mapped terrestrial ecosystems, including summaries by general ecosystem type, and brief descriptions of the typical species composition, vegetation structure, and function in the local Project area;	16	16.3.4.8 to 16.3.4.11			
		• plants, lichens and ecosystems identified through field surveys, or reviews of government occurrence databases, that are “at-risk” and listed by the BC CDC (blue and red lists), COSEWIC, SARA or are otherwise recognized as sensitive or rare;	16	16.3.8			
		• plants, lichens and ecosystems of local importance or management priority, as identified within the Cassiar-Iskut Stikine LRMP, Nass South SRMP or by local resource users;	16	16.3.6			
		• plants, lichens and ecosystems of cultural, spiritual, or traditional importance to First Nations groups, when information is available;	16	16.3.6			
		• surface soils, including classification, suitability for reclamation, quality, erosion potential;	11 16	11.3.4 16.3		16-A	
		• invasive, alien or noxious plants, as defined in the province’s *Weed Control Act* (1996i) and/or by the Northwest Invasive Plant Council; and	16	16.3.7			
		• a description of the ecological communities expected to have been present in the area prior to historical development.	16	16.3			
		The information will be supported by terrestrial ecosystem mapping within the local study area performed in accordance with the *Standard for Terrestrial Ecosystem Mapping in British Columbia* (RISC 1998).	16	16.3.4.8		16-A	
		The mapping will be further supported by traditional ecological knowledge, when and where available.	16	16.3.6			
		The Application will indicate the sources of the baseline data, including the time frame and data collection methods.	16	16.3.3, 16.3.4			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.5.2	Regulatory and Policy Framework	The Application will include a description of relevant legislation, and list applicable provincial and regional best management practices and guidance documents to be implemented.	16	16.2			
		Terrestrial ecosystems will be assessed using guidance from relevant documents and legislation, including the following:	16	16.2			
		• BC *Mines Act* (1996e);	16	16.2			
		• BC *Weed Control Act* (1996i);	16	16.2			
		• BC *Forest and Range Practices Act* (2002b);	16	16.2			
		• BC *Wildlife Act* (1996j);	16	16.2			
		• BC *Environmental Management Act* (2003);	16	16.2			
		• Canadian Biodiversity Strategy (Environment Canada 1995);	16	16.2			
		• *Cassiar-Iskut-Stikine LRMP* (BC ILMB 2000);	16	16.3.3.1			
		• *Fisheries Act* (1985c);	16	16.2			
		• *Fish Protection Act* (1997);	16	16.2			
		• *Nass South SRMP* (BC MFLNRO 2012); and	16	16.3.3.1			
		• *Species at Risk Act* (2002c).	16	16.2			
9.5.3	Establishing the Scope of the Assessment for Terrestrial Ecology		16	16.4			
9.5.3.1	Selecting Valued Components and Indicators	The rationale for choosing and assessing terrestrial ecology in the Application will be described, and will include a consideration of the information outlined in Section 7.4.	16	16.4.1			
		The rationale for choosing and assessing terrestrial ecology in the Application will be described, and will include a consideration of the information outlined in Section 7.4. The rationale for choosing terrestrial ecology indicators will also be presented in the Application. Preliminary indicators include:					
		• rare plant and lichens, and rare plant and lichen habitat;	16	16.4.1			
		• economic and culturally important plants;	16	16.4.1			
		• alpine ecosystems;	16	16.4.1			
		• parkland ecosystems;	16	16.4.1			
		• floodplain ecosystems; and	16	16.4.1			
		• forested ecosystems.	16	16.4.1			
9.5.3.2	Assessment Boundaries	The Application will include:					
		• a description and rationalization of the local and regional spatial extent of the assessment relative to the VCs; and	16	16.4.3.1			
		• maps outlining the spatial extent of the LSA within which the assessment of the potential effects of the project on the VCs will take place.	16	16.4.3.1			
		Preliminary assessment boundaries are presented in Figure 8.4-1, and are based on the extents of Predictive Ecosystem Mapping (regional scale), and Terrestrial Ecosystem Mapping (local scale) Any changes to these boundaries will be described and justified in the Application.	16	16.4.3.1			
		The Application will identify and describe the rationale for the temporal boundaries related to the assessment of terrestrial ecology.	16	16.4.3.2			
		The effects assessment will be conducted for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure, or a rationale will be provided if one or more phases are not relevant.	16	16.4.3.2			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.5.3.2 *(cont'd)*	Assessment Boundaries *(cont'd)*	If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6 16	6.4.2 16.4.3.3			
		• a description and rationalization of the other boundaries for the VCs; and	6 16	6.4.2 16.4.3.3			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6 16	6.4.2 16.4.3.3			
9.5.3.3	Identifying Potential Effects	A discussion of how VCs may be affected by interactions with Project components and physical activities for each Project phase will be provided in the Application.	16	16.4.4			
9.5.4	Effects Assessment and Mitigation		16	16.5	29.5, 29.9, 29.12		
9.5.4.1	Identifying Key Effects	The Application will provide a detailed discussion and identify key project components and activities causing an effect on terrestrial ecology VCs using the scoping approach outlined in Section 7.5.	16	16.5			
		Potential effects that will be assessed relate to the loss and/ or alteration of VC spatial extent and function and include:					
		• direct effect of vegetation or ecosystem loss resulting from clearing activities during development of the mine and associated infrastructure;	16	16.5.5			
		• indirect effects of soils and vegetation due to dustfall and/or the introduction and spread of invasive (including noxious and nuisance) plant species; and	16	16.5.5			
		• effects on loss and alteration of ecosystem function. Potential functions to be assessed may include forest productivity, hydrologic function (i.e., flood mitigation functions of riparian ecosystems), wildlife habitat function, biodiversity (i.e., old growth refugia, rare plant habitat), traditional values (i.e., ecosystems supporting medicinal plants), and economic function (i.e., ecosystems supporting pine mushrooms).	16	16.5.5			
		In particular, any potential for change to a listed species or its critical habitat (as defined in SARA or by taxonomic experts) will be discussed.	16	16.5			
		The Application will describe the detailed analysis methodology and standards used to determine the effects of the Project on the terrestrial ecology VCs, and will consider:					
		• ecological functions performed by terrestrial ecosystems in their unaltered, or natural, state;	16	16.1, 16.3.4, 16.5			
		• loss or alteration of forested ecosystems, including analysis by structural stage;	16	16.5.5.3			
		• loss or alteration of parkland and alpine ecosystems;	16	16.5.5.2,16.5.5.1			
		• loss or alteration of riparian and floodplain ecosystems;	16	16.5.5.4			
		• loss or alteration potentially affecting rare and /or sensitive species and ecosystems (as listed by the BC CDC (blue and red), Natureserve, COSEWIC, and SARA, or otherwise considered rare);	16	16.5.5.5			
		• habitat loss or alteration of plants, lichens and ecosystems of cultural importance to First Nations groups, when information is available; and	16	16.5.5.6, 16.5.5.7			
		• habitat loss or alteration potentially affecting plants, lichens and ecosystems of local importance or management priority, as identified within the Cassiar-Iskut-Stikine LRMP, Nass South SRMP, or by local resource users.	16	16.5.5.6, 16.5.5.7			
		The assessment of effects will focus on the mine infrastructure footprint, and areas where potential change due to the project on terrestrial ecology VCs could occur.	16	16.5, 16.4.3			
		Where applicable, results from terrain and soils, fish and fish habitat, air quality, and surface water hydrology predictive study will be used to predict effects on terrestrial ecosystems, ecologically valuable soils, as well as plants and lichens.	16	16.5			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.5.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to reduce effects on terrestrial ecology VCs will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5.	16	16.5.7			
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize effects on terrestrial ecology VCs.	4	4.6			
9.5.5	Residual Effects		16	16.6			
9.5.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6.	16	16.6			
		A summary of residual effects on terrestrial ecology VCs will be provided as per Table 7.6-1.	16	16.8 Tables 16.6-1 to 16.6-6			
9.5.5.2	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on terrestrial ecology VCs remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	16	16.7, 16.8			
9.5.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on terrestrial ecology VCs remaining after the implementation of mitigation measures, including any relevant management plan(s).	16	16.8			
		The methodology will follow that outlined in Section 7.6 and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1.	16	16.8 Table 16.8-1			
9.5.5.4	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on terrestrial ecology VCs remaining after the implementation of mitigation outlined in Section 7.6. A risk assessment will be performed if necessary.	16	16.8			
9.5.5.5	Summary	A table will be provided using the same format at shown in Table 7.6-2 that summarizes the residual effects, their significance, and associated likelihood and confidence of the Project effects on terrestrial ecology VCs.	16	16.8 Table 16.8-1			
9.5.6	Cumulative Effects Assessment	The Application will identify historic, present and reasonably foreseeable future projects and activities that may impact terrestrial ecology VCs and that could contribute to potential cumulative effects.	16	16.10			
		All residual effects on terrestrial ecology VCs will be carried forward for consideration into the CEA.					
9.6	Wetlands	The Application will briefly describe wetlands as receptor VCs, referencing linkages with air quality and surface water quality.	17	17.4.1, 17.4.3.5, 17.5.2, 17.6.2			
9.6.1	Baseline Characterization	The Application will include a description of wetlands resources in the regional area of the Project.	17	17.3.1			
		Traditional ecological or local knowledge will be used when describing regional baseline conditions, where available. The regional scale information will provide additional context, and will support the cumulative effects assessment.	17	17.4.1.3			
		The Application will provide a brief summary of the baseline studies that were conducted within an LSA including detailed mapping of wetland extent, and identification primary of wetland functions (Milko 1998b).	17	17.3.3 Figure 17.3-1		17-A	
		The Application will indicate the sources of the baseline data, including the time frame and data collection methods.	17	17.3.3		17-A	
9.6.2	Regulatory and Policy Framework	The Application will include a description of relevant legislation, and list applicable provincial and regional best management practices and guidance documents to be implemented. Key documents and legislation include:	17	17.2			
		• BC *Forest and Range Practices Act* (2002b);	17	17.2.1.3			
		• *Canadian Environmental Protection Act* (1999);	17	17.2.1.11			
		• *Wetlands Environmental Assessment Guideline* (Milko 1998b); and	17	17.2.1.2, 17.3.3.2,			
		• *Wetland Ways: Interim Guidelines for Wetland Protection and Conservation in British Columbia* (WSP 2009).	17	17.2.1.10			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.6.3	Establishing the Scope of the Assessment for Wetlands		17	17.4			
9.6.3.1	Selecting Receptor Valued Components	The rationale for choosing and assessing wetlands as a VC in the Application will be described, and will include a consideration of the information outlined in Section 7.4.	17	17.4.1			
		Two preliminary indicators have been selected: wetland extent and wetland function.	17	17.4.1, 17.4.1.3, 17.4.3			
9.6.3.2	Assessment Boundaries	The Application will include:					
		• a description of the local and regional spatial extent of the assessment relative to the VC; and	17	17.4.2			
		• maps outlining the spatial extent of RSA and LSA of the VC.	17	17.4.2.1			
		Any changes to these boundaries will be described and justified in the Application.	17	17.4.2			
		The Application will identify and describe the rationale for the temporal boundaries related to the assessment of wetlands.	17	17.4.2.2			
		The effects assessment will be conducted for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure, or a rationale will be provided if one or more phases are not relevant.	17	17.4.3.7, 17.4.3.8, 17.4.3.9, 17.4.3.10			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6 17	6.4.2 17.4.2.3			
		• a description and rationalization of the other boundaries for the VC; and	6 17	6.4.2 17.4.2.3			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6 17	6.4.2 17.4.2.3			
9.6.3.3	Identifying Potential Effects	A discussion of how VCs may be affected by interactions with Project components and physical activities for each Project phase will be provided in the Application.	17	17.4.3			
9.6.4	Effects Assessment and Mitigation		17	17.5			
9.6.4.1	Identifying Key Effects	The Application will provide a detailed discussion and identify key project components and activities causing an effect on wetland VCs using the scoping approach outlined in Section 7.5.	17	17.5.1.1, 17.5.2.1			
		The Application will describe the methods and standards used to determine the effects of the Project on wetland VCs.	17	17.5.2.1, 17.6.4			
		The Application will identify potential effects on the environment related to the loss of wetland spatial extent and function.	17	17.4.3, 17.5.2.1			
		The assessment of effects will focus on the mine infrastructure footprint, and potential changes to wetland function and extent within the Local Study Area.	17	17.4.2.3			
		Where applicable, results from wildlife, water quality, fish and fish habitat, hydrogeology, terrain and soils, and surface water hydrology will be used to predict effects on wetland VCs.	17	17.6.2, 17.6.3			
9.6.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to reduce effects on wetland VCs will be identified and discussed.	17	17.5.2.2		29.20	
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize effects on wetland VCs.	4 17	4.6 17.9.2, 17.5.2.2			
9.6.5	Residual Effects		17	17.6			
9.6.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6.	17	17.6, 17.6.1,			
		A summary of residual effects on wetland VCs will be provided as per Table 7.6-1.	17	17.6 Table 17.6-1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.6.5.2	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on wetlands VCs remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	17	17.6, 17.7, 17.7.1			
9.5.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on wetlands VCs remaining after the implementation of mitigation measures, including any relevant management plan(s). The methodology will follow that outlined in Section 7.6 and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1 of the AIR.	17	17.6, 17.7.1.2, 17.8			
9.6.5.4	Confidence and Risk	The Application will evaluate confidence/uncertainty of residual effects of the Project on wetlands VCs remaining after the implementation of mitigation outlined in Section 7.6. A risk assessment will be performed if necessary.	17	17.7.1.3			
9.6.5.5	Summary	A table will be provided using the same format at shown in Table 7.6-2 of the AIR that summarizes the residual effects, their significance, and associated likelihood and confidence of the Project effects on wetlands VCs.	17	17.8 Table 17.7-3			
9.6.6	Cumulative Effects Assessment	The Application will identify historic, present and reasonably foreseeable future projects and activities that may impact wetland VCs and that could contribute to potential cumulative effects.	17	17.9, 17.9.1.2, 17.9.2			
		All Project-related residual effects on wetland VCs will be carried forward for consideration into the CEA.	17	17.9.4, 17.9.5			
9.7	Wildlife	The Application will briefly describe terrestrial wildlife and wildlife habitat as receptor VCs, referencing linkages with air quality, noise, and surface water quality.	18			18-A, 18-B1, 18-C	
9.7.1	Baseline Characterization	The Application will describe existing local and applicable regional wildlife and wildlife habitat conditions. In the context of an area influenced by the project the information will include, but not be limited to:	18	18.3		18-A	
		• an overview of wildlife and wildlife habitat background information;	18	18.3			
		• existing terrestrial wildlife populations, important wildlife habitat, features and characteristics for each wildlife indicator in the proposed Project area;	18	18.3			
		• wildlife species at risk potentially present or identified through field studies and existing literature in the proposed Project area; and	18	18.3.1.4			
		• results from Project specific baseline studies.	18	18.3			
		Traditional ecological or local knowledge will be used when describing regional baseline conditions, where available.	18	18.3			
		The results of wildlife baseline inventories in the Project area will be described and discussed within the context of regional populations and data sources.	18	18.3			
		The baseline information will also include a description of important habitats for select wildlife species. Groups included in the baseline studies are:	18	18.3			
		• ungulates;	18	18.3.4			
		• furbearers;	18	18.3.4			
		• large carnivores;	18	18.3.4			
		• small mammals;	18	18.3.4			
		• bats;	18	18.3.4			
		• raptors;	18	18.3.5			
		• migratory terrestrial and water birds; and	18	18.3.5			
		• amphibians.	18	18.3.6			
		The baseline information will characterise the wildlife community and summarize species abundance for representative species or groups.	18	18.3.4, 18.3.5, 18.3.6		18-A	

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.7.1 *(cont'd)*	Baseline Characterization *(cont'd)*	Some species will be selected for detailed inventory, and these will be determined considering their status as species of conservation concern (e.g., species covered by SARA, COSEWIC, or BC provincial red- and blue-lists (BC CDC 2010)), species of importance to local and First Nations communities, and species identified from resource management plans.	18	18.2.2, 18.3.1			
		Wildlife habitat will be mapped within the regional study area or local study area for select wildlife species.	18	18.3.4, 18.3.5, 18.3.6			
		Mapping will include local knowledge wherever possible, and will be conducted at an appropriate scale as determined regionally for wildlife species.	18	18.3			
		Field assessments will be used to assess map accuracy.	18	18.3.4			
9.7.2	Regulatory and Policy Framework	The Application will include a description of relevant legislation, and list applicable provincial and regional best management practices and guidance documents to be implemented.	18	18.2			
		Wildlife will be assessed using guidance inclusive of, but not necessarily limited to, the following documents and legislation:	18	18.2			
		• BC *Mines Act* (1996e)	18	18.2			
		• BC *Forest and Range Practices Act* (2002b);	18	18.2			
		• *Species at Risk Act* (2002c);	18	18.2			
		• Canadian Biodiversity Strategy (Environment Canada 1995);	18	18.2			
		• BC *Wildlife Act* (1996j);	18	18.2			
		• BC *Environmental Management Act* (2003); and	18	18.2			
		• *Migratory Birds Convention Act* (1994).	18	18.2			
9.7.3	Establishing the Scope of the Assessment for Wildlife						
9.7.3.1	Selecting Receptor Valued Components	The rationale for choosing and assessing wildlife and wildlife habitat in the Application will be described, and will include a consideration of the information outlined in Section 7.4.	18	18.4.1			
		Where applicable, the assessment will identify individual species as sub-components of wildlife groups.	18	18.4.1			
		The rationale will be clearly stated for choosing each sub-group or species, which may include; species of regulatory concern, Aboriginal interest, local or community concern, or scientific knowledge. In some cases, candidate species will be excluded from being a receptor VC where another species has a similar ecological niche, or where the fate of one species is dependent on another assessed species. Wildlife sub-components include:	18	18.4.1			
		• mountain goat (*Oreamnos americanus*);	18	18.4.1			
		• moose (*Alces alces*);	18	18.4.1			
		• grizzly bear (*Ursus arctos*);	18	18.4.1			
		• bats (emphasis on little brown myotis (*Myotis lucifugus*) and northern myotis (*Myotis septentrionalis*));	18	18.4.1			
		• American marten (*Martes americana*);	18	18.4.1			
		• hoary marmot (*Marmota caligata*);	18	18.4.1			
		• migratory landbirds;	18	18.4.1			
		• migratory waterbirds;	18	18.4.1			
		• raptors; and	18	18.4.1			
		• Western toad (*Anaxyrus boreas*).	18	18.4.1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.7.3.2	Assessment Boundaries	The Application will include an assessment of wildlife and habitat relative to boundaries representing the local study area that may be influenced by the Project as well as a regional study area representing a functioning ecosystem at a regional level.	18	18.4.2			
		The Application will provide a rationale for any variation from the preliminary study boundary.	18	18.4.2.1			
		The Application will identify and describe the rationale for the temporal boundaries related to the assessment of wildlife.	18	18.4.2.2			
		The effects assessment will be conducted for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure, or a rationale will be provided if one or more phases are not relevant.	18	18.4.3			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6 18	6.4.2 18.4.2			
		• a description and rationalization of the other boundaries for wildlife VCs; and	6 18	6.4.2 18.4.2			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6 18	6.4.2 18.4.2			
9.7.3.3	Identifying Potential Effects	A discussion of how receptor VCs may be affected by interactions with Project components and physical activities for each Project phase will be provided in the Application.	18	18.4.3			
9.7.4	Effects Assessment and Mitigation		18				
9.7.4.1	Identifying Key Effects	The Application will provide a detailed discussion and identify key project components and activities causing an effect on wildlife VCs using the scoping approach outlined in Section 7.5.	18	18.5			
		The Application will describe the methods and standards used to determine the effects of the Project on wildlife VCs.	18	18.5			
		For each wildlife VC, the Application will use the following indicators to assess direct and indirect effects on both wildlife and wildlife habitats resulting from the Project, including changes in:	18	18.5			
		• habitat loss and alteration;	18	18.5.1			
		• disruption of movements;	18	18.5.3			
		• sensory disturbance;	18	18.5.2			
		• direct and indirect wildlife mortality from Project activities (including traffic collisions);	18	18.5.4, 18.5.5			
		• chemical hazards; and	18	18.5.7			
		• attractants (including those that could lead to human/wildlife interactions) for particular species.	18	18.5.6			
		Where applicable, the results of predictive studies for air quality, noise, and surface water quality will be incorporated into the effects assessment.	18	18.5			
9.7.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to reduce effects on wildlife VCs will be identified and discussed.	18	18.5			
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize effects on wildlife VCs.	4 18	4.6 18.5			
9.7.5	Residual Effects		18	18.6			
9.7.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6.	18	18.6			
		A summary of residual effects on wildlife VCs will be provided as per Table 7.6-1.	18	18.6			
9.7.5.2	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on wildlife VCs remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	18	18.7			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.7.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on wildlife VCs remaining after the implementation of mitigation measures, including any relevant management plan(s). The methodology will follow that outlined in Section 7.6 and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1 of the AIR.	18	18.7			
		Significance will be assessed in relation to the influence on local and regional populations, including the influence on consumptive use of harvestable species relative to their provincial and federal scale of management. Wildlife objectives will be used where applicable.	18	18.7			
9.7.5.4	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on wildlife VCs remaining after the implementation of mitigation outlined in Section 7.6. A risk assessment will be performed if necessary.	18	18.7			
9.7.5.5	Summary	A table will be provided using the same format at shown in Table 7.6-2 that summarizes the residual effects, their significance, and associated likelihood and confidence of Project effects on wildlife VCs.	18	18.8			
9.7.6	Cumulative Effects Assessment	Following the methods outlined in Section 7.7, the Application will identify historic, present and reasonably foreseeable future projects and activities that may impact wildlife VCs and that could contribute to potential cumulative effects. All Project-related residual effects on wildlife VCs will be carried forward for consideration into the CEA.	18	18.9			
9.7.7	Follow-up Strategy	If a follow-up monitoring program is required for wildlife, the Application will include a description of the follow-up strategy as outlined in Section 7.8.	35	35.3, 35.4	29.21		
10	Assessment of Potential Economic Effects	This section of the Application will summarize the assessment of potential adverse effects of the Project on economic values (e.g., employment and income production, economic activity, labour market).	19	19.4.1, 19.4.3.1, 19.5.1.1, 19.5.1.2, 19.5.1.3			
		The Application will indicate the predicted adverse effects of the Project during Construction, Operation, Closure, and Post-closure, and describe these adverse effects using appropriate criteria.	19	19.5.1.1, 19.5.1.2, 19.5.1.3			
		Anticipated positive economic effects will be detailed in Section 1.9, Project Benefits.	1 19	1.9 19.1, 19.4.1			
		Potential adverse economic effects related to economic activity as it applies to commercial land use is discussed in Section 14.	24	24.5.1			Considered and applied in the Commercial and Non-commercial Land Use Assessment (Chapter 24).
10.1	Economic Setting	This section will provide an overview of the economic context and setting of the regional and provincial study areas that may be affected by or interact with the proposed Project. Information will be provided on:	19	19.3.1, 19.3.3			
		• population trends and demographic characteristics, including active labour force (a more detailed account of population demography to be provided in the social effects assessment);	19	19.3.1.1, 19.3.1.3, 19.3.3.3		19-A	
		• key economic sectors, industries, and trends;	19	19.3.1.2, 19.3.3.3			
		• municipal and regional expenditures and operating budgets;	19	19.3.1.4, 19.3.3.3			
		• provincial and regional labour supply and demand by job sector and category; and	19	19.3.1.2, 19.3.1.3, 19.3.3.3			
		• income and earnings where information is available.	19	19.3.1.3, 19.3.3.3			
		The Application will provide an overview of the methods used to collect baseline data. Analysis and trends will be based on the most up to date federal, provincial and local data available.	19	19.3.3.1, 19.3.3.2			
10.2	Regulatory and Policy Framework	The Application will include a description of relevant legislation, and list applicable provincial and regional best management practices and guidance documents. Economic conditions will be assessed using guidance inclusive of, but not necessarily limited to, the following documents and legislation:	19	19.2			
		• the Cassiar Iskut-Stikine Land and Resource Management Plan (BC ILMB 2000);	19	19.2			
		• the Nass South Sustainable Resource Management Plan (BC MFLNRO 2012); and	19	19.2			
		• relevant Official Community Plans and by-laws for local municipalities.	19	19.2			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
10.3	Establishing the Scope of the Effects Assessment		19	19.4			
10.3.1	Selecting Receptor Valued Components	The Application will describe and provide rationale for the overall scope of the economic effects assessment process and analysis including key variables and spatial and temporal extent.	19	19.4.1, 19.4.1.1, 19.4.1.2, 19.4.1.3, 19.4.2.1, 19.4.2.2, 19.4.2.3, 19.4.2.4			
		The Application will identify VCs considered as part of the economic effects assessment. It will contain a rationale for the inclusion of each VC guided by input and will include a consideration of the information outlined in Section 7.4.	19	19.4.1, 19.4.1.1, 19.4.1.2, 19.4.1.3			
		The Application will summarize the economics VC(s) per Section 7.4, which have been grouped into the following sub-components:	19	19.4.1			
		• Labour market;	19	19.4.1			
		• Income production and revenue; and	19	19.4.1			
		• Economic activity.	19	19.4.1			
10.3.2	Assessment Boundaries	The Application will define and rationalize the spatial extent of provincial, regional, and local study areas including a description and maps.	19	19.4.2.1 Figure 19.3-1			
		The Application will identify and describe the temporal boundaries related to the assessment of economic effects on local, regional, and provincial economies.	19	19.4.2.2			
		The effects assessment will be conducted for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure, or a rationale will be provided if one or more phases are not relevant.	19	19.5.1.1, 19.5.1.2, 19.5.1.3			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6 19	6.4.2 19.4.2.3, 19.4.2.4			
		• a description and rationalization of the other boundaries for economic VCs; and	6 19	6.4.2 19.4.2.3, 19.4.2.4			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6 19	6.4.2 19.4.2.3, 19.4.2.4			
10.3.3	Identifying Potential Effects	A discussion of how VCs may be affected by interactions with Project components, physical activities, labour market, and businesses and services for each Project phase will be provided in the Application.	1 19	1.9 19.4.3, 19.4.3.1			
10.4	Effects Assessment and Mitigation		19	19.5.1, 19.5.1.1, 19.5.1.2, 19.5.1.3			
10.4.1	Identifying Key Effects	The Application will provide a detailed discussion and identify key project components and activities causing an effect on VCs using the scoping approach outlined in Section 7.5.	19	19.5.1.1, 19.5.1.2, 19.5.1.3; Table 19.5-1		19-B	
		The Application will describe the methods and standards used in the analysis to determine the effects of the proposed Project on VCs.	19	19.5.1.1, 19.5.1.2, 19.5.1.3			
		VCs will be assessed based on the economic information outlined in Section 2.9.	19	19.5.1.1, 19.5.1.2, 19.5.1.3			
		The Application will examine the demands of the proposed Project for labour, goods, and services in the context of current and expected future local and regional capacity.	1	1.9			
		The Application will use the following preliminary indicators to assess the Project's effects on economic VCs:	1 19	1.9 19.4.3.1, 19.5.1.1, 19.5.1.2, 19.5.1.3			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
10.4.1 *(cont'd)*	Identifying Key Effects *(cont'd)*	• changes in personal and commercial income;	1 19	1.9 19.5.1.1, 19.5.1.2, 19.5.1.3			
		• changes in tax revenues;	1 19	1.9 19.5.1.1, 19.5.1.2, 19.5.1.3			
		• skills and wage pressures on the local labour force; and	19	19.5.1.2			
		• continuation of, or increased access to business opportunities and economic diversification;	1 19	1.9 19.4.1			
10.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to reduce effects on VCs will be identified and discussed.	19	19.5.1.1, 19.5.1.2, 19.5.1.3			
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize adverse effects on VCs.	4 19	4.4, 4.6 19.5.1.1, 19.5.1.2, 19.5.1.3			
10.5	Residual Effects		19	19.6			
10.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6.	19	19.6, 19.6.1, 19.6.1.1, 19.6.1.2			
		A summary of residual effects on economic VCs will be provided as per Table 7.6-1 of the AIR.	19	19.6.1, 19.6.1.1, 19.6.1.2 Tables 19.6-1, 19.8-1			
10.5.2	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on economic VCs remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	19	19.7, 19.7.1, 19.7.1.1, 19.7.2, 19.7.2.1 Table 19.7-1			
10.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on economics VCs remaining after the implementation of mitigation measures, including any relevant management plan(s).	19	19.7.3 Table 19.7-1			
		The methodology will follow that outlined in Section 7.6 above and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1 of the AIR.	19	19.7.3, 19.7.3.1 Table 19.7-1			
10.5.4	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on economic VCs remaining after the implementation of mitigation outlined in Section 7.6.	19	19.7.4, 19.7.4.1 Table 19.7-1			
		A risk assessment will be performed if necessary.	N/A				
10.5.5	Summary	A table will be provided using the same format at shown in Table 7.6-2 that summarizes the residual effects, their significance, and associated likelihood and confidence of Project effects on economic VCs.	19	19.8 Table 19.7-1, 19.8-1			
10.6	Cumulative Effects Assessment	The Application will identify historic, present and reasonably foreseeable future projects and activities that may impact VCs and that could contribute to potential cumulative effects.	19	19.9, 19.9.1.1, 19.9.1.2, 19.9.1.3, 19.9.1.4 Tables 19.9-1, 19.9-2			
		All Project-related residual effects on VCs will be carried forward for consideration into the CEA.	19	19.9, 19.9.1, 19.9.1.1, 19.9.1.2, 19.9.1.3, 19.9.1.4, 19.9.2, 19.9.2.1, 19.9.2.2, 19.10, 19.10.1, 19.11, 19.11.1, 19.11.1.1, 19.11.1.2, 19.11.2, 19.11.2.1, 19.11.2.2, 19.11.3, 19.11.3.1, 19.11.3.2, 19.11.4, 19.11.4.1, 19.11.4.2, 19.11.5			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
11	Assessment of Potential Social Effects	This section of the Application will summarize the assessment of potential adverse effects of the Project on social attributes and conditions (e.g., community demographics, infrastructure and services; education, skills, and training).	20	20.1, 20.4.1, 20.4.1.1, 20.5.1.1, 20.5.2.1, 20.5.3.1			
		The Application will indicate the predicted adverse effects of the Project during Construction, Operation, Closure, and Post-closure Project phases, and describe these effects using appropriate criteria.	20	20.4.3, 20.5.1.1, 20.5.2.1, 20.5.3.1			
		Potential social effects related to change in non-commercial land use are discussed in Section 14.	6 24	6.1, 6.4.1 24.4.1			Considered and applied in the Commercial and Non-commercial Land Use Assessment (Chapter 24)
11.1	Social Setting	This section will provide an overview of the social context and setting of the region as well as municipalities, Indian reserves, and Aboriginal communities that may be affected by or interact with the proposed Project.	20	20.3.1, 20.3.4			
		Information will be provided on:					
		• population, demographics including age and gender distribution, historic trends and future projections, and other characteristics of local, regional, and Aboriginal populations;	20	20.3.1, 20.3.4			
		• community and regional infrastructure and services (e.g., social, housing, emergency response, health, transportation etc.);	20	20.3.1, 20.3.4			
		• educational levels and skills; and	20	20.3.1, 20.3.4			
		• regional and local education and training resources, program, and facilities.	20	20.3.1, 20.3.4			
		The Application will identify the baseline methods (e.g., interviews and desk-based research) used to collect information for the effects assessment. Analysis and trends will be based on the most up to date federal, provincial and local data available.	20	20.3.3, 20.3.3.1			
11.2	Regulatory and Policy Framework	The Application will include a description of relevant legislation, and list applicable provincial and regional best management practices and guidance documents to be implemented.	20	20.2			
		Social conditions will be assessed using guidance inclusive of, but not necessarily limited to, the following documents and legislation:	20	20.2			
		• the Cassiar-Iskut-Stikine Land and Resource Management Plan (BC ILMB 2000);	19 24	19.2 24.2			Considered and applied in the Economic Effects Assessment (Chapter 19) and the Commercial and Non-commercial Land Use Assessment (Chapter 24).
		• the Nass South Sustainable Resource Management Plan (BC MFLNRO 2012); and	19 24	19.2 24.2			Considered and applied in the Economic Effects Assessment (Chapter 19) and the Commercial and Non-commercial Land Use Assessment (Chapter 24).
		• relevant Official Community Plans.	20	20.2			
11.3	Establishing the Scope of the Assessment for Social Effects		20	20.4		20-A, 20-B	
11.3.1	Selecting Receptor Valued Components	The Application will describe and provide rationale for the overall scope of the social effects assessment process and analysis including key variables and spatial and temporal extent.	20	20.4.1			
		The Application will identify “valued social components” (henceforth social VCs) considered as part of the social effects assessment. It will contain a rationale for the inclusion of each social VC guided by input and will include a consideration of the information outlined in Section 7.4.	20	20.4.1, 20.4.1.1, 20.4.1.2, 20.4.1.3			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
11.3.1 *(cont'd)*	Selecting Receptor Valued Components *(cont'd)*	The following sub-components have been identified for the social effects assessment:	20	20.4.1			
		• Education, skills, and training;	20	20.4.1			
		• Community infrastructure, services, and housing; and	20	20.4.1			
		• Family and worker well-being.	20	20.4.1			
11.3.2	Assessment Boundaries	The Application will define and rationalize the spatial extent of an RSA and LSA including a description and maps.	20	20.4.2, 20.4.2.1 Figure 20.3-1			
		Any changes to the spatial boundaries will be described and justified in the Application.	20	20.4.2.1			
		The Application will identify and describe the temporal boundaries related to the assessment of social effects.	20	20.4.2.2			
		The effects assessment will be conducted for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure, or a rationalization will be provided if one or more of the phases are not relevant.	20	20.4.3, 20.4.3.1, 20.4.3.2, 20.4.3.3, 20.5.1.1, 20.5.2.1, 20.5.3.1			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6 20	6.4.2 20.4.2.3			
		• a description and rationalization of the other boundaries for the VC; and	6 20	6.4.2 20.4.2.3			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6 20	6.4.2 20.4.2.3			
11.3.3	Identifying Potential Effects	A discussion of how VCs may be affected by interactions with Project components and activities for each Project phase will be provided in the Application.	20	20.4.3, 20.4.3.1, 20.4.3.2, 20.4.3.3			
11.4	Effects Assessment and Mitigation		20	20.5			
11.4.1	Identifying Key Effects	The Application will provide a detailed discussion and identify key project components and activities causing an effect on social VCs using the scoping approach outlined in Section 7.5.	20	20.5.1, 20.5.2, 20.5.3			
		The Application will describe the methodology and standards used in the analysis to determine the effects of the proposed Project on social VCs.	20	20.5.1.1, 20.5.2.1, 20.5.3.1			
		The Application will assess potential change in community population demographics as a result of the proposed Project and consider how such change might affect other aspects of community life and social conditions.	20	20.5.1.1, 20.5.2.1, 20.5.3.1			
		The Application will assess potential effects on existing community infrastructure including housing and facilities and resources for the delivery of education, health, social, and emergency services in Aboriginal and settler communities throughout the RSA.	20	20.5.2.1			
		The Application will describe potential education and skills training effects related to the Construction and operation phases of the Project, including the potential demand on existing post-secondary facilities and programs and identification of potential barriers for access.	20	20.5.1.1			
		The Application will assess potential effects on workers and their families as a result of working and residing on a scheduled rotating basis in a remote camp location.	20	20.5.3.1			
11.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to reduce effects on social VCs will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5.	20	20.5.1.2, 20.5.2.2, 20.5.3.2			
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize effects on social VCs.	4 20	4.4, 4.6 20.5.1.2, 20.5.2.2, 20.5.3.2			
		Opportunities to enhance potential Project benefits and mitigate potential adverse effects will be described.	20	20.5.1.2, 20.5.2.2, 20.5.3.2			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
11.5	Residual Effects		20	20.6			
11.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6. A summary of residual effects on social VCs will be provided as per Table 7.6-1.	20	20.6.1, 20.6.1.1, 20.6.2, 20.6.2.1, 20.6.2.2, 20.6.3, 20.6.3.1, 20.6.3.2, 20.6.3.3 Table 20.6-1			
11.5.2	Characterization of Residual Effects	The Application will characterize the residual effects of the Project on social VCs remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	20	20.7, 20.7.1, 20.7.1.1, 20.7.1.2, 20.7.1.3 Table 20.7-8		20-A, 20-B	
11.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on social VCs remaining after the implementation of mitigation measures, including any relevant management plan(s). The methodology will follow that outlined in Section 7.6 and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1 of the AIR.	20	20.7.1.4, 20.7.1.5, 20.7.1.6 Table 20.7-8			
11.5.4	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on social VCs remaining after the implementation of mitigation outlined in Section 7.6. A risk assessment will be performed if necessary.	20	20.7.1.7, 20.7.1.8, 20.7.1.9 Table 20.7-8			
11.5.5	Summary	A table will be provided using the same format at shown in Table 7.6-2 that summarizes the residual effects, their significance, and associated likelihood and confidence of Project effects on social VCs.	20	20.8 Tables 20.7-8, 20.8-1			
11.6	Cumulative Effects Assessment	Following the methods outlined in Section 7.7, the Application will identify historic, present and reasonably foreseeable future projects and activities that may impact social VCs and that could contribute to potential cumulative effects.	20	20.9, 20.9.1, 20.9.2, 20.9.3, 20.9.4, 20.9.5			
		All Project-related residual effects on social VCs will be carried forward for consideration into the CEA.	20	20.9, 20.9.1, 20.9.2, 20.9.3, 20.9.4, 20.9.5			
12	Assessment of Potential Human Health Effects	This section of the Application will summarize the assessment of potential effects of the Project on human health values, including from changes to air quality, noise levels, drinking water quality, and country foods consumption.	21	21.4, 21.5, 21.6, 21.7			
		The Application will indicate the predicted effects of the Project during Construction, Operation, Closure, and Post-closure Project phases, and describe these effects using appropriate criteria.	21	21.4, 21.4.3, 21.5, 21.7			
12.1	Baseline Characterization	The Application will reference preceding sections, if applicable, or summarize regional conditions affecting the human health setting of the Project for each of the indicators including:	21	21.3			
		• air quality;	21	21.3.3.2		7-B	
		• noise levels;	21	21.3.3.1		8-A	
		• drinking water quality; and	21	21.3.3.3			
		• country foods	21	21.3.3.4		21-A	
		Local scale data will be derived from baseline environmental studies (e.g., air quality, noise, drinking water quality, and country foods), as well as land use surveys and traditional ecological or local knowledge, where available.	21	21.3.3.2, 21.3.3.1, 21.3.3.3, 21.3.3.4		21-A	
		This data will be discussed for each indicator in the context of human health, including comparison to relevant guidelines, under baseline conditions.	21	21.3.4.1, 21.3.4.2, 21.3.4.3, 21.3.4.4			
12.2	Regulatory and Policy Framework	The Application will include a description of relevant legislation, and list applicable provincial and regional best management practices and guidance documents to be implemented.	21	21.2, 21.2.1, 21.2.2, 21.2.3, 21.2.4			
		Human Health conditions will be assessed using guidance inclusive of, but not necessarily limited to, the following documents and legislation:	21	21.2, 21.3, 21.4, 21.5, 21.6, 21.7			
		• *Useful Information for Environmental Assessments* (Health Canada 2010c);	21	21.2, 21.2.4, 21.4.1, 21.4.1.3, 21.5.1.1, 21.6.1.1			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
12.2 *(cont'd)*	Regulatory and Policy Framework *(cont'd)*	• *Canadian Handbook on Health Impact Assessments Vol. 3: The Multidisciplinary Team* (Health Canada 2004);	21	21.5.2.1		21-A	
		• *Air Quality Guidelines for the Protection of Human Health and the Environment* (CCME 2012a);	21	21.2.2			
		• *BC Air Quality Objectives and Standards* (Government of British Columbia 2012);	21	21.2.2, 21.6.2.1, 21.6.4.2			
		• *National Ambient Air Quality Objectives and Canada-wide Standards for Air Pollutants* (Health Canada 1998);	21	21.2.2			
		• *Guidelines for Community Noise* (World Health Organization 1999);	21	21.2.1, 21.3.3.1, 21.3.4.1, 21.5.1.1, 21.6.1.1, 21.7.1.1, 21.7.1.4			
		• *Using a change in percent highly annoyed with noise as a potential health effect measure for projects under the Canadian Environmental Assessment Act* (Michaud, Bly, and Keith 2008);	21	21.2.1, 21.5.1.1, 21.6.1.1			
		• *Information on levels of environmental noise requisite to protect public health and welfare with an adequate margin of safety* (US EPA 1974);	21	21.2.1, 21.5.1.1, 21.6.1.1, 21.7.1.4			
		• *BC Drinking Water Protection Act* (2001);	21	21.2.3			
		• *BC Drinking Water Protection Regulation* (BC Reg 200/2003);	21	21.2.3			
		• *Guidelines for Canadian Drinking Water Quality – Summary Table* (Health Canada 2012b);	21	21.2.3, 21.3.3.3, 21.3.3.4, 21.3.4.3			
		• *Guidelines for Canadian Recreational Water Quality* (Health Canada 1992);	21	21.2.3			
		• *Federal Contaminated Site Risk Assessment in Canada, Supplemental Guidance on Human Health Risk Assessment for Country Foods* (Health Canada 2010b);	21	21.3.3.4, 21.3.4.4, 21.5.4.1			
		• *Federal Contaminated Site Risk Assessment in Canada, Part I: Guidance on Human Health Preliminary Quantitative Risk Assessment (PQRA), Version 2.0* (Health Canada 2012a); and	21	21.3.4.4, 21.6.4.2			
		• *Federal Contaminated Site Risk Assessment in Canada, Part II: Health Canada Toxicological Reference Values (TRVs) and Chemical-Specific Factors, Version 2.0* (Health Canada 2010a).	21	21.6.4.2			
12.3	Establishing the Scope of the Effects Assessment	The Application will describe and provide rationale for the overall scope of the health effects assessment process and analysis including key variables and spatial and temporal extent.	21	21.4, 21.4.1, 21.4.1.1, 21.4.1.2, 21.4.1.3, 21.4.2, 21.4.2.1, 21.4.2.2, 21.4.2.3			
		The Application will identify 'human health' as a VC and identify sub-components as part of the health effects assessment.	21	21.4.1, 21.4.1.1, 21.4.1.2, 21.4.1.3			
		It will contain a rationale for the inclusion of each human health sub-component indicator guided by input and will include a consideration of the information outlined in Section 7.3.	21	21.4.1, 21.4.1.1, 21.4.1.2, 21.4.1.3			
		Preliminary sub-components that have been selected for the human health effects assessment are:	21	21.4.1.3; Table 21.4-2			
		• Drinking water;	21	21.4.1.3; Table 21.4.2			
		• Air quality;	21	21.4.1.3; Table 21.4.2			
		• Noise; and	21	21.4.1.3; Table 21.4.2			
		• Country foods quality (plant/animals locally harvested/hunted and consumed).	21	21.4.1.3; Table 21.4.2			
12.3.1	Assessment Boundaries	The Application will identify and describe the rationale for the spatial boundaries for the assessment of human health effects. The Application will include:	21	21.4.2.1			
		• a description of the local and regional spatial extent of the assessment relative to each of the human health indicators; and	21	21.4.2.1			
		• maps outlining the spatial extent of the LSA and RSA (if applicable) of each of the human health indicators.	21	21.4.2.1 Figures 21.4-1, 21.4-2, 21.4-3, 21.4-4			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
12.3.1 *(cont'd)*	Assessment Boundaries *(cont'd)*	The Application will identify and describe the temporal boundaries related to the assessment of health effects.	21	21.4.2.2			
		The effects assessment will be conducted for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure, or a rationale will be provided if one or more phases are not relevant.	21	21.4.2.2			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	21, 6	21.4.2.3, 6.4.2			
		• a description and rationalization of the other boundaries for human health; and	21, 6	21.4.2.3, 6.4.2			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	21, 6	21.4.2.3, 6.4.2			
12.3.2	Identifying Potential Effects	A discussion of how human health may be affected by interactions with Project components and activities for each Project phase will be provided in the Application.	21	21.4.3, 21.4.3.1, 21.4.3.2, 21.4.3.3, 21.4.3.4			
12.4	Effects Assessment and Mitigation		21	21.5			
12.4.1	Identifying Key Effects	The Application will provide a detailed discussion and identify key project components and activities causing an effect on the human health using the scoping approach outlined in Section 7.5.	6 21	6.5.1 21.5.1, 21.5.1.1, 21.5.2, 21.5.2.1, 21.5.3, 21.5.3.1, 21.5.4, 21.5.4.1			
		The Application will describe the analysis methodology and standards used to determine the effects of the Project on human health.	6 21	6.6.1 21.5.1.1, 21.5.2.1, 21.5.3.1, 21.5.4.1, 21.6.2.1, 21.6.3.1, 21.6.4.1,			
		The human health effects assessment will include the analysis of potential effects from Project-related changes to noise levels and potential contamination of air, potable water, or country foods.	21	21.5.1.1, 21.5.2.1, 21.5.3.1, 21.5.4.1			
		Potential human receptors and/or sensitive receptor groups will be identified and may include groups such as off-duty workers residing in camps at the Project site, First Nations, and the general population. Land use surveys (Section 11) and traditional ecological or local knowledge, where available, will be used to determine the potential for exposure of human receptors to changes in noise levels or potential contaminants in air, potable water, or country foods.	21	21.4.2.3, 21.6.1.2, 21.6.2.2, 21.6.3.2, 21.6.4.2			
		Screening criteria used to identify contaminants of potential concern (COPCs) for inclusion in the human health effects assessment will be clearly described.	21	21.6.1, 21.6.2.2, 21.6.2.2, 21.6.3.2, 21.6.4.2 Table 21.6-6			
		Rationale for the inclusion or exclusion of human receptors or COPCs will be provided.	21	21.6.1.3, 21.6.2.2, 21.6.3.2, 21.6.4.2			
		Wherever possible, quantitative or semi-quantitative estimates of the potential risk to human health will be used within the methodology framework to guide the residual effects assessment.	21	21.6.1.3, 21.6.2.2, 21.6.3.2, 21.6.4.2			
		Data from predictive models (e.g., noise or air, water, and country foods quality) will be compared to baseline conditions or to acceptable human exposure levels for noise or contaminants (e.g., guidelines, toxicity reference values) to assess the potential for effects to human health.	21	21.6.1.3, 21.6.2.2, 21.6.3.2, 21.6.4.2		21-B, 21-C, 21-D, 21-E, 21-F, 21-G	
12.4.2	Implementing Mitigation Measures	Within the context of potential effects to human health, mitigation measures to minimize Project-related effects on noise, air quality, drinking water quality, and country foods quality outlined in preceding sections of the Application will be referred to or summarized.	21	21.5.1.2, 21.5.2.2, 21.5.3.2, 21.5.4.2			
		Any monitoring, follow-up, adaptive management programs, and commitments related to noise, air quality, drinking water, or country foods will be referred to or summarized.	21 35	21.5.1.2, 21.5.2.2, 21.5.3.2, 21.5.4.2 35.3, 35.4	29.11, 29.2, 29.14, 29.3, 29.16, 29.21		
12.5	Residual Effects		21	21.6			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
12.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6.	6 21	6.6.1 21.6.1, 21.6.2, 21.6.3, 21.6.4			
		A summary of residual effects on human health VCs will be provided as per Table 7.6-1.	21	21.8 Tables 21.6-19, 21.7-3, 21.8-1			
12.5.2	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on human health VCs remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	6 21	6.7.1, 6.7.2 21.7, 21.7-1, 21.7.1.1, 21.7.1.2, 21.7.2, 21.7.2.1, 21.7.2.2, 21.7.3, 21.7.3.1, 21.7.3.2			
12.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on human health VCs remaining after the implementation of mitigation measures including any relevant management plan(s).	6 21	6.7.3 21.7, 21.7.1, 21.7.1.3, 21.7.2, 21.7.2.3, 21.7.3, 21.7.3.3, 21.8			
		The methodology will follow that outlined in Section 7.6 above and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1.	6 21	6.6, 6.6.1 21.6.5; Table 21.6-19			
12.5.4	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on human health VCs remaining after the implementation of mitigation outlined in Section 7.6. A risk assessment will be performed if necessary.	6 21	6.6, 6.6.1, 6.7, 6.7.1 21.6.4.1, 21.6.4.2, 21.7.1.4, 21.7.2.4, 21.7.3.4			
		The significance of the residual effects will be assessed based on comparison of predicted effects or conditions to either the relevant guidelines or baseline conditions (for parameters that exceed guideline limits under baseline conditions).	6 21	6.7.3 21.7.1.3, 21.7.2.3, 21.7.3.3, 21.6.4.2			
12.5.5	Summary	A table will be provided using the same format at shown in Table 7.6-2 that summarizes the residual effects, their significance, and associated likelihood, confidence and risk of the Project on human health VCs.	6 21	6.7 Table 6.7-1 21.7.1, 21.7.2, 21.7.3 Table 21.7-3			
12.6	Cumulative Effects Assessment	Following the methods outlined in Section 7.7, the Application will identify historic, present, and reasonably foreseeable future projects and activities that may impact human health and that could contribute to potential cumulative effects. All Project-related residual effects on human health will be carried forward for consideration into the CEA.	6 21	6.9 21.9, 21.9.1, 21.9.2, 21.9.3, 21.9.4, 21.9.5			
13	Assessment of Potential Heritage Effects	This section of the Application will summarize the assessment of potential effects of the Project on heritage values.	22				
		The Application will indicate the predicted effects of the Project during Construction, Operation, Closure, and Post-closure Project phases, and describe these effects using appropriate criteria.	22	22.4.1.1, 22.4.3			
13.1	Baseline Characterization	The Application will:	22				
		• provide an overview of heritage resources in the regional area;	22	22.3		22-A	
		• describe the heritage studies that have been undertaken to support the Project as per the BC *Heritage Conservation Act* (1996m);	22	22.3.3, 22.3.4		22-A, 22-B	
		• describe the distribution and density of known protected heritage resources within the Project footprint, making use of traditional ecological or local knowledge, where available;	22	22.3.3, 22.3.4		22-A, 22-B	
		• identify provincially registered and protected heritage resources within the Project footprint; and	22	22.3.4		22-A, 22-B	
		• describe the methods used to undertake the heritage resources baseline program.	22	22.3.3		22-A, 22-B	
13.2	Regulatory and Policy Framework	The Application will include a description of relevant legislation, and list applicable provincial and regional best management practices and guidance documents to be implemented.	22	22.2			

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13.3	Establishing the Scope of the Effects Assessment		22	22.4			
13.3.1	Selecting Valued Components and Indicators	The Application will summarize the heritage VC(s), with reference to Section 7.4.	22	22.4, 22.4.1			
		The rationale for choosing heritage sub-components will also be presented in the Application. Based on analysis of previously recorded sites, and an assessment of the risk of encountering new sites as a result of project development, one preliminary sub-component has been identified for the heritage effects assessment: 'Protected Archaeological Resources'.	22	22.4.1, 22.4.1.2, 22.4.1.3			
13.3.2	Assessment Boundaries	The Application will identify and describe the rationale for the spatial boundaries for the assessment of heritage effects. The Application will include:	22	22.4.2.1			
		• a description of the local and regional spatial extent of the assessment relative to the VC; and	22	22.4.2.1			
		• maps outlining the spatial extent of RSA and LSA of the VC.	22	22.4.2.1, 22.1 Figure 22.1-1			
		The Application will include a description of the period of time to be examined in the VC assessment and consider all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure.	22	22.4.2.2			
		The Application will identify and describe the rationale for the temporal boundaries for the assessment of archaeology and heritage effects.	22	22.4.2.2			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include:	6 22	6.4.2 22.2			
		• a description and rationalization of the other boundaries for the VC; and	6	6.4.2			
		• a summary of the types of other boundaries identified, and a discussion of how these were determined.	6	6.4.2			
13.3.3	Identifying Potential Effects	A discussion of how VCs may be affected by interactions with Project components, physical activities, and businesses and services for each Project phase will be provided in the Application.	22	22.4.3			
13.4	Effects Assessment and Mitigation		22	22.5			
13.4.1	Identifying Key Effects	The Application will provide a detailed discussion and identify key project components and activities causing an effect on heritage using the scoping approach outlined in Section 7.5.	22	22.5.1			
		The Application will describe the analysis methodology and standards used to determine the effects of the Project on protected heritage resources (Archaeology Branch 1998).	22	22.5.1			
		An Archaeological Impact Assessment will be included in the Application.	22	22.3		22-A	
		The Application will assess potential effects on protected heritage resources and consider all of the requirements of the BC *Heritage Conservation Act* (1996m).	22	22.5.1			
13.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to reduce effects on heritage VCs will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5.	22	22.5.1.2	29.8		
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize effects on heritage.	4 22	4.6 22.3			
13.5	Residual Effects		22	22.6			
13.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6.	22	22.6			
		A summary of residual effects on heritage VCs will be provided as per Table 7.6-1.	22	22.6			

Application Information Requirements			Application/Environmental Impact Statement				
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13.5.2	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on heritage remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	22	22.6			
13.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on heritage remaining after the implementation of mitigation measures, including any relevant management plan(s).	22	22.6			
		The methodology will follow that outlined in Section 7.6 and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1 of the AIR.	22	22.6			
13.5.4	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on heritage remaining after the implementation of mitigation outlined in Section 7.6.	22	22.6			
		A risk assessment will be performed if necessary.	22	22.5.1			
13.5.5	Summary	A table will be provided using the same format at shown in Table 7.6-2 that summarizes the residual effects, their significance, and associated likelihood and confidence.	22	22.6			
13.6	Cumulative Effects Assessment	Following the methods outlined in Section 7.7, the Application will identify historic, present and reasonably foreseeable future projects and activities that may impact heritage and that could contribute to potential cumulative effects.	22	22.7			
		All Project-related residual effects on heritage will be carried forward for consideration into the CEA.	22	22.6			
14	Assessment of Potential Commercial and Non-commercial Land Use Effects	This section of the Application will summarize the assessment of potential effects of the Project on commercial land use and recreational land uses. The Application will assess the predicted effects of the Project during Construction, Operation, Closure, and Post-closure, and describe these effects using appropriate criteria.	24	24.4 to 24.8		24-A, 24-B, 24-C, 24-D	
14.1	Land Use Setting	This section will provide an overview of commercial and recreational land use setting of the local and regional study areas that may be affected by or interact with the proposed Project. The Application will:	24	24.3		24-A, 24-B, 24-C, 24-D	
		• describe commercial land uses including, Crown-granted tenures (e.g., trapping, forestry, utilities, mineral, oil and gas, guide outfitting, commercial recreation, angling guides etc.) and licences (e.g., water);	24	24.3.6.2, 24.3.7 to 24.3.11.		24-A, 24-B	
		• commercial land use income and earnings where information is available; and	24	24.3.6.2, 24.3.7.		24-A	
		• describe recreational and public land use including fishing, resident hunting, public recreation, fee simple or private land, protected areas, parks, and any natural or manmade areas or features of particular importance to tourism and outdoor recreation.	24	24.3.5, 24.3.6.1, 24.3.3, 24.3.12, 24.3.13, 24.3.14, 24.3.8		24-A, 24-C, 24-D	
		The Application will provide an overview of the methods used to collect baseline data. Analysis and trends will be based on the most up to date provincial and local data available. Information will be obtained from multiple sources including:	24	24.3.2.1		24A	
		• regional/local government economic planning documents and bylaws	19	19.2			
		• relevant land and resource management plans, Integrated Land and Resource Registry (ILRR), as well as OCPs, Regional Plans, and zoning bylaws	24	24.3.4		24-A	
		• provincial government (MFLNRO, MOE, MEM)	24	24.3.5, 24.3.6.1, 24.3.7, 24.3.8, 24.3.9, 24.3.10, 24.3.11.		24-A, 24-C, 24-D	
		• GIS analysis to identify sites of anticipated land use change and disruption; and	24	24.3.14		24-B	
		• informant interviews with key government representatives and potentially affected non-commercial and commercial land users and tenure holders within the study areas.	24	24.3.6 to 24.3.8		24-A	
		Maps and/or descriptions of existing and past land and resources uses in relation to the proposed Project will be included.	24	24.3.2		24-A	

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14.2	Regulatory and Policy Framework	The Application will include a description of relevant legislation, and list applicable provincial and regional best management practices and guidance documents. Conditions will be assessed using guidance inclusive of, but not necessarily limited to, the following documents and legislation.	24	24.2			
		• Cassiar Iskut-Stikine Land and Resource Management Plan (BC ILMB 2000); and	24	24.3.4.1		24-A	
		• Nass South Sustainable Resource Management Plan (BC MFLNRO 2012).	24	24.3.4.2		24-A	
14.3	Establishing the Scope of the Effects Assessment		24	24.1			
14.3.1	Selecting Receptor Valued Components	The Application will describe and provide rationale for the overall scope of the effects assessment process and analysis related to commercial and non-commercial land uses including key variables and spatial and temporal extent.	24	24.4			
		The Application will identify VCs considered as part of the commercial and non-commercial land use effects assessment. It will contain a rationale for the inclusion of each VC guided by input and will include a consideration of the information outlined in Section 7.4.	24	24.4.1			
		The Application will summarize the commercial and non-commercial land use VC(s) per Section 7.4, which have been grouped into the following sub-components:	24	24.4.1			
		• Commercial land use (e.g., economic opportunities derived from resource development, commercial fishing and recreation, guide outfitting, forestry, trapping); and	24	24.4.1.3			
		• Non-commercial land use (e.g., recreational fishing, registered hunting, public use and protected areas).	24	24.4.1.3			
14.3.2	Assessment Boundaries	The Application will include local and regional spatial assessment boundaries for commercial and non-commercial land use.	24	24.4.2.1			
		A description and justification of any changes to the final spatial boundaries will be included in the Application.	24	24.4.2.1			
		The Application will identify and describe the temporal boundaries related to the assessment of commercial and non-commercial land use effects on the study areas.	24	24.4.2.2			
		The effects assessment will be conducted for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure as defined in Section 7.4, or a rationale will be provided if one or more phases are not relevant.	24	24.3, 24.5			
		If applicable, other boundaries may be described in the Application. These may include both administrative and technical boundaries. If applicable, the Application will include a summary of other boundaries identified, and a discussion of how these boundaries were determined.	6	6.4.2			
14.3.3	Identifying Potential Effects	A discussion of how VCs may be affected by interactions with Project components, physical activities, and businesses and services for each Project phase will be provided in the Application.	24	24.4.3			
14.4	Effects Assessment and Mitigation		24	24.5			
14.4.1	Identifying Key Effects	The Application will provide a detailed discussion of key project components and activities causing an effect on VCs using the scoping approach outlined in Section 7.5.	24	24.5			
		The Application will describe the methods and standards used in the analysis to determine the effects of the proposed Project on VCs.	24	24.3.2.1, 24.5.1, 24.7.1 Table 24.7-1			
		The commercial land use VC will also be assessed based on the economic information outlined in the land use setting and baseline.	4 24	4.4-2		24-A	
		The Application will assess the Project's effects on non-commercial land uses in the Project area.	24	24.4.1.3			
		The Application will also identify potential land use conflicts with overlapping tenure holders and outline proposed mitigation measures.	24	24.5			

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14.4.1 *(cont'd)*	Identifying Key Effects *(cont'd)*	The Application will use the following preliminary indicators to assess the Project's effects on commercial and non-commercial land use VCs:					
		• changes in access to land and resource use areas;	24	24.5.1.1			
		• changes in quality and experience of the natural environment, including visual quality; and	24	24.5.1.2			
		• changes to the abundance and distribution of resources.	24	24.5.1.3			
14.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to reduce effects on VCs will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5.	24	24.5.1.4			
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize adverse effects on VCs.	4 24	4.6 24.5.1.4			
14.5	Residual Effects		24	24.6			
14.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures. A summary of residual effects on commercial and non-commercial land use VCs will be provided.	24	24.6			
14.5.2	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on commercial and non-commercial land use VCs remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	24	24.7.1			
14.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on commercial and non-commercial land use VCs remaining after the implementation of mitigation measures, including any relevant management plan(s).	24	24.7.1			
		The methodology will follow that outlined in Section 7.6 above and will summarize significance ratings for all residual effects.	24	24.8			
14.5.4	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on commercial and non-commercial land use VCs remaining after the implementation of mitigation outlined in Section 7.6. A risk assessment will be performed if necessary.	24	24.7.1			
14.5.5	Summary	A table will be provided that summarizes the residual effects, their significance, and associated likelihood and confidence of Project effects on commercial and non-commercial land use VCs.	24	Table 24.7-2			
14.6	Cumulative Effects Assessment	Following the methods outlined in Section 7.7, the Application will identify historic, present and reasonably foreseeable future projects and activities that may impact VCs and that could contribute to potential cumulative effects.	24	24.9 Table 24.9-1			
		All Project-related residual effects on VCs will be carried forward for consideration into the CEA.	24	24.9.1.1			
15	Assessment of Potential Effects on Current Use of Lands and Resources for Traditional Purposes	Information on the current use of lands and resources for traditional purposes by Aboriginal people potentially affected by the proposed Project will be provided in this section of the Application. Current uses may or may not be linked to the exercise of asserted or established Aboriginal or treaty rights (Aboriginal Interests) by Aboriginal people.	25	25.3		25-A, 25-B, 25-C	
		This section will discuss potential effects to the current uses of lands and resources by Aboriginal people, hereafter called current Aboriginal use, within the defined project study areas.	25	25.4 to 25.8			
		The Proponent's proposed approach to addressing additional information on TLU and/or TK received during the Application Review Period or post-Certification (should an EA Certificate be issued) will also be noted.	25 26	25.3.2.1 26.3.3			
15.1	Aboriginal Land and Resource Use Setting	This section will provide an overview of the current Aboriginal land and resource use context and setting of the local and regional study areas that may be affected by or interact with the proposed Project. Information will be provided on:	25	25.2, 25.3.3		25-B, 25-C	
		• the nature and extent of Aboriginal land and resource uses including, hunting, trapping, fishing, and gathering;	25	25.3.3.1, 25.3.3.2, 25.3.3.3		25-A, 25-B, 25-C	
		• the location and use of cabins and other habitations for harvesting activities; and	25	25.3.3.4		25-B	
		• the nature and extent of non-subsistence uses of the land, including ceremonial or spiritual purposes, or cultural modifications of the landscape (e.g., burials, trails, culturally modified trees).	25	25.3.3.4		25-B	

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
15.1 *(cont'd)*	Aboriginal Land and Resource Use Setting *(cont'd)*	The Application will provide an overview of the methods used to collect baseline data.	25	25.3.2		25-A, 25-B, 25-C	
		Maps and/or descriptions of existing and past land and resources uses by Aboriginal groups in relation to the proposed Project will be included.	25	25.3.3.1, 25.3.3.2, 25.3.3.3, 25.3.3.4		25-B	
15.2	Regulatory and Policy Framework	The Application will include a description of relevant legislation and list guidance documents.	25	25.2			
15.3	Establishing the Scope of the Effects Assessment		25	25.4			
15.3.1	Selecting Receptor Valued Components	The Application will describe and provide rationale for the overall scope of the current Aboriginal use effects assessment process and analysis, including key variables and spatial and temporal extent.	25	25.4.1			
		The Application will identify VCs considered as part of the current Aboriginal use effects assessment.	25	25.4.1			
		It will contain a rationale for the inclusion of each VC guided by input and will include a consideration of the information outlined in Section 7.4.	25	25.4.1.3			
		The Application will summarize the current aboriginal use VC(s) per Section 7.4, which have been grouped into the following sub-components:	25	25.4.1.3			
		• Fishing Opportunities and Practices;	25	25.4.1.3			
		• Hunting/Trapping Opportunities and Practices;	25	25.4.1.3			
		• Plant Gathering Opportunities and Practices; and	25	25.4.1.3			
		• Habitations, Trails, Burials and Other Cultural Modifications of the Landscape.	25	25.4.1.3			Referred to as "Habitations, Trails, Burial Sites and Cultural Landscapes."
15.3.2	Assessment Boundaries	The Application will include local and regional spatial assessment boundaries for current Aboriginal use.	25	25.4.2.1			
		A description and justification of any changes to the final spatial boundaries will be included in the Application.	25	25.4.2.1			
		The Application will identify and describe the temporal boundaries related to the assessment of current aboriginal use effects within the study areas.	25	25.4.2.2			
		The effects assessment will be conducted for all Project phases including Construction, Operation, Reclamation and Closure, and Post-closure as defined in Section 7.4, or a rationale will be provided if one or more phases are not relevant.	25	25.5			
		If applicable, other boundaries may be described in the Application. These may include both administrative and traditional territory boundaries.	N/A				Traditional territory boundaries were not considered relevant in this context.
		If applicable, the Application will include a summary of the types of other boundaries identified, and a discussion of how these were determined.	6	6.4.2			
15.3.3	Identifying Potential Effects	A discussion of how VCs may be affected by interactions with Project components, physical activities, employment, and businesses and services for each Project phase will be provided in the Application.	25	25.4.3			
15.4	Effects Assessment and Mitigation		25	25.5			
15.4.1	Identifying Key Effects	The Application will provide a detailed discussion and identify key project components and activities causing an effect on VCs using the scoping approach outlined in Section 7.5.	25	25.5			
		The Application will describe the methods and standards used in the analysis to determine the effects of the proposed Project on VCs.	25	25.5, 25.5.1.1, 25.5.2.1, 25.5.3.1, 25.5.4.1			

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
15.4.1 *(cont'd)*	Identifying Key Effects *(cont'd)*	The Application will examine the demands of the proposed Project for Aboriginal labour, and services in the context of current Aboriginal use.	26	26.8.3			
		The Application will use the following indicators to assess the Project's effects on current Aboriginal use VCs:	25	25.5			
		• change in access to land and resources (e.g., limitations or restrictions, decline in opportunities);	25	25.5.1.2, 25.5.2.2, 25.5.3.2, 25.5.4.2	None	None	
		• change in sensory disturbances;	25	25.5.1.3, 25.5.2.3			Referred to as "Change in Quality of Experience of the Natural Environment."
		• change in the amount of resources (including land base and harvest resources); and	25	25.5.1.4, 25.5.2.4, 25.5.3.3			Referred to as "Change in the Abundance and Distribution of Resources."
		• change in the quality of resources;	25	25.5.1.5 ,25.5.2.5, 25.5.3.4			Referred to as "Change to the Quality of Resources."
15.4.2	Implementing Mitigation Measures	Mitigation measures and management plans to reduce effects on current Aboriginal use VCs will be identified and discussed and may include any one of the type of mitigation measures described in Section 7.5.	25	25.5.1.6, 25.5.2.6, 25.5.3.5, 25.5.4.3			
		The Application will also include a discussion of applicable Project design changes that were implemented to minimize adverse effects on VCs.	4	4.6			
15.5	Residual Effects		25	25.6			
15.5.1	Residual Effects Remaining after Mitigation	The Application will describe residual effects of the Project remaining after the implementation of mitigation measures following the methodology outlined in Section 7.6.	25	25.6.1			
		A summary of residual effects on current Aboriginal use VCs will be provided.	25	25.6			
15.5.2	Characterization and Likelihood of Residual Effects	The Application will characterize the residual effects of the Project on current Aboriginal use VCs remaining after the implementation of mitigation measures and state the likelihood of the residual effects occurring following the methodology outlined in Section 7.6.	25	25.7.1.1, 25.7.1.2, 25.7.1.3			
15.5.3	Significance of Residual Effects	The Application will evaluate and determine the significance of residual effects of the Project on current Aboriginal use VCs remaining after the implementation of mitigation measures, including any relevant management plan(s).	25	25.7.1.2			
		The methodology will follow that outlined in Section 7.6and will summarize significance ratings for all residual effects in the same format as that shown in Table 7.6-1.	25	Tables 25.7-2, 25.7-3			
15.5.4	Confidence and Risk	The Application will evaluate the confidence/uncertainty of residual effects of the Project on current Aboriginal use VCs remaining after the implementation of mitigation outlined in Section 7.6. A risk assessment will be performed if necessary.	25	25.7.1.3			
15.5.5	Summary	A table will be provided using the same format at shown in Table 7.6-2 that summarizes the residual effects, their significance, and associated likelihood and confidence of Project effects on current Aboriginal use VCs.	25	Table 25.7-4			
15.6	Cumulative Effects Assessment	Following the methods outlined in Section 7.7, the Application will identify historical, present, and reasonably foreseeable future projects and activities that may impact VCs and that could contribute to potential cumulative effects.	25	25.9			
PART C	**ABORIGINAL GROUPS AND NISGA'A NATION**	Part C of the Application will discuss Aboriginal groups (First Nations, wilps, and Métis), asserted ore established Aboriginal rights and interests, and Nisga'a Nation Treaty rights and interests, and information requirements that pertain to the proposed Project.	26 27	All sections All sections			
		The Application will provide an appropriate level of background information on the social, cultural, and economic circumstances of each of the Aboriginal groups being considered.	26 27	26.2 27.2			
		The Application will provide an assessment of the potential adverse effects of the Project on Aboriginal rights and, in the case of Nisga'a Nation, their treaty rights under the *Nisga'a Final Agreement* (NFA), and consider how these rights might be affected by the Project.	26 27	26.7 27.4, 27.5, 27.6			

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
PART C *(cont'd)*	**ABORIGINAL GROUPS AND NISGA'A NATION** *(cont'd)*	Part C of the Application will also summarize the assessment of potential effects of the Project on the interests of Aboriginal groups and Nisga'a Nation during each Project phase including Construction, Operation, Closure, and Post-closure.	26 27	26.8 27.4, 27.5, 27.6			
		The Application will discuss and consider the key, relevant issues and concerns about the Project raised by the various Aboriginal groups and/or identified through consultation and engagement.	26 27	26.3.4 27.4.9			
		Part C of the Application will also identify mitigation and management measures that will be deployed to minimize or eliminate potential adverse effects and enhance potentially beneficial outcomes.	26 27	26.6 27.4, 27.5, 27.6			
		The EAO guidance documents, including, *Proponent Guide for providing First Nation Consultation Information - Non-treaty First Nations* (BC EAO 2010b) and *Proponent Guide for providing First Nation Consultation Information – Treaty First Nations* (BC EAO 2010c) will be used to inform the preparation and completion of the Application.	3 26 27	3.2.1 26.1 27.1			
16	Assessment of Effects on Asserted or Established Aboriginal Rights and Interests						
16.1	Aboriginal Context and Overview	This section of the Application will:	26	26.1, 26.2			
		• identify the Aboriginal groups as defined in the Section 11 Order that could potentially be affected by the proposed Project;	26	26.1			
		• provide background information, including a map and description identifying the Indian Reserves and Aboriginal communities and the general location of their traditional territories in relation to the Project (see Figures 16.1-1 through 16.1-2 as examples of traditional territories; any deviation from these maps will be justified in the Application); and	26	26.1.1, 26.2			
		• provide an overview of recent history, (including customs and practices), traditional, contemporary, and potential future land use, planning and resource management, and economy.	25 26	 26.2		25-A, 25-B, 25-C	
16.2	Summary of Consultation Activities	This section of the Application will:	26	26.3			
		• summarize past and planned consultation activities also described in detail in Chapter 4;	3 26	 26.3		3-D, 3-K, 3-L	
		• summarize proposed changes to the Aboriginal Consultation Plan resulting from the Aboriginal Groups' feedback, or experience from consultation to date; and	3	3.5.2.1		3-K, 3-L	
		• report on the key issues and concerns raised by Aboriginal Groups (organized by group) that are relevant to the environmental assessment, and where their input (including Traditional Knowledge and Use studies) was considered into the Project design and/or environmental assessment process.	26 27	26.3.4, 26.3.5 27.3.6			
16.3	Potential Effects on Aboriginal Rights	This section of the Application will:	26	26.5			
		• summarize asserted or established Aboriginal rights (including title) in a table format listed by Aboriginal Group, and indicate where there is interaction between Aboriginal right and a VC; and	26	26.6			
		• Identify potential effects of the proposed Project on identified Aboriginal rights for each Aboriginal group. Information from relevant sections of the Applications will be cross-referenced and summarized in context of the specific Aboriginal group.	26	26.6			
16.4	Mitigation and Environmental Management Strategies	The Application will summarize and cross-reference the mitigation or environmental management strategies that address identified impacts to Aboriginal rights.	26	26.6			
16.5	Residual Effects to Aboriginal Rights	For each Aboriginal group, the Application will:	26	26.7			
		• characterize the effects on Aboriginal rights of the proposed Project after mitigation, in a manner adapted from the assessment methodology in the AIR; and	26	26.7.1, 26.7.2			
		• determine the likelihood and uncertainty of any effects on Aboriginal rights.	26	26.7.1, 26.7.2			
		The results of assessments to VCs included elsewhere in the Application will be cross-referenced.	26	26.6			

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16.6	Other Interests of Aboriginal Groups and Mitigation Measures	This section of the Application will:	26	26.8			
		• identify broader concerns and interests raised by Aboriginal Groups with respect to potential environmental, economic, social, heritage and health effects of the proposed Project;	26	26.8			
		• summarize and cross-reference the mitigation or environmental management strategies which address the identified effects on other Aboriginal concerns and interests; and	26	26.8			
		• characterize the effects on the other Aboriginal concerns of the proposed Project after mitigation, in a manner consistent with and adapted from the assessment methodology in the AIR.	26	N/A			No residual effects were attached to any of the interests and concerns raised by Aboriginal groups in Section 26.8.
17	Assessment of Nisga'a Nation Treaty Rights, Interests, and Information Requirements	The Application will summarize information provided in an accompanying Nisga'a Economic, Social, and Cultural Impact Assessment (ESCIA) Report to enable the Crown to assess the effects of the proposed Project on the existing and future economic, social and cultural well-being of Nisga'a citizens.	27	27.6			
17.1	Nisga'a Nation Context and Overview	Provide background information, including maps (see Figure 15.1-1; any deviation from this map will be justified in the Application), on the Nisga'a Nation and the Nisga'a Lands, Nass Area and Nass Wildlife Area as defined in the NFA, and their potential implications for the Environmental Assessment of the proposed Project.	27	27.1, 27.2			
		This Part of the Application will describe the Nisga'a social, cultural, economic and health environments, including interests and rights identified in the NFA that are potentially impacted by the proposed Project, using the study methods described in Part B, as well as the aforementioned workplan, or other methods developed through discussions with the Nisga'a Lisims Government.	25 27	27.2		25-A	
		Describe relevant Nisga'a archaeology and heritage interests with regards to the proposed Project.	27	27.3.4			
		Environmental effects on archaeology will be discussed in Part B.	22	22.2, 22.3.1	29.8	22-A	
		For the purposes of the CEAA process, the Application will include a discussion of the current use of lands and resources.	27	27.3.5			
17.2	Summary of Consultation Activities	This section of the Application will:	27	27.3			
		• summarize past and planned consultation activities also described in detail in Chapter 4;	27	27.3			
		• summarize proposed changes to the Aboriginal Consultation Plan resulting from NLG feedback, or experience from consultation to date; and	3 27	27.3.2		3-K, 3-L	
		• report on the key issues and concerns raised by NLG that are relevant to the environmental assessment, and where their input was considered into the Project design and/or environmental assessment process.	27	27.3.6			
17.3	Potential Effects to Treaty Rights	This section of the Application will:	27				
		• identify potential effects of the proposed Project on residents of Nisga'a Lands, Nisga'a Lands or Nisga'a interests as set out in the NFA and on the existing and future economic, social and cultural well-being of Nisga'a citizens who may be impacted by the proposed Project and any proposed measures to prevent or mitigate such effects;	27	27.5			
		• identify and describe where there is overlap between a Treaty interest and a Project Activity; and	27	27.5.1.3			
		• assess cumulative impacts on VCs relevant to Treaty rights described in the NFA including impacts on residents of Nisga'a Lands, Nisga'a Lands or Nisga'a interests. Information from relevant sections of the Application and accompanying ESCIA Report will be cross-referenced and summarized in the context of Nisga'a Nation interests.	27	27.4.2.2, 27.5.2.2			
17.4	Mitigation and Environmental Management Strategies	The Application will summarize and cross-reference the mitigation or environmental management strategies that address identified impacts to Treaty rights.	27	27.8			

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
17.5	Residual Effects to Treaty Rights	The Application will:	27	27.8			
		• characterize the effects on Treaty rights of the proposed Project after mitigation, in a manner adapted from the assessment methodology in the AIR; and	27	27.8			
		• determine the likelihood and uncertainty of any effects on Treaty rights.	27	27.8			
		The results of assessments to VCs included elsewhere in the Application will be cross-referenced.	27	27.8			
17.6	Other Nisga'a Nation Interests and Mitigation Measures	This section of the Application will:	27	27.6			
		• identify broader concerns and interests raised by Nisga'a Nation with respect to potential environmental, economic, social, heritage and health effects of the proposed Project on residents of Nisga'a Lands, Nisga'a Lands, or Nisga'a interests;	27	27.9			
		• summarize and cross-reference the mitigation or environmental management strategies which address the identified effects on residents of Nisga'a Lands, Nisga'a Lands or other Nisga'a Nation concerns and interests; and	27	27.9			
		• characterize the effects on the other Nisga'a Nation concerns of the proposed Project after mitigation, in a manner adapted from the assessment methodology in the AIR.	27	27.9			
18	Aboriginal Groups and Nisga'a Nation Summary	The Application will include:					
		• a Summary Table (see Table 18-1 of the AIR as an example) that identifies Aboriginal and Nisga'a Nation rights that may be impacted by the proposed Project, and the measures to mitigate the effects; and	35	35.2.2			
		• an Appendix that contains comments received from Aboriginal Groups regarding this section of the Application.	3			3-D (Tables 3-D1, 3-D2, 3-D3, and 3-D4)	Comments received from the Skii km Lax Ha only.
		This section of the Application will be shared with Aboriginal Group prior to the Application being submitted to the EAO. Any comments received from Aboriginal Groups will be included in an Appendix to the Application together with the Proponent's response.	3			3-D	Prior to completion of Application, summary memos were provided to Aboriginal Groups for this purpose, see Appendix 3-D (Table 3-D1, 3-D2, 3-D3, and 3-D4).
PART D	**ENVIRONMENTAL MANAGEMENT PLANS AND REPORTING**	Part D of the Application will describe the Environmental Management Plans (EMPs).	29	29.1 to 29.22			
		The Application will include a detailed description of the Environmental Management System (EMS) and monitoring plans, as well as the adaptive management approach required for all phases of the Project including Construction, Operation, Closure, and Post-closure.	28	28.1 to 28.6			
19	Environmental Management Plans	The Application will include a detailed description of the environmental management plans (EMPs) required for all phases of the Project including Construction, Operation, Closure, and Post-closure.	29	29.1 to 29.22			
		Plans will identify proposed mitigation measures identified in the predictive study and assessment of potential effects chapters of the Application that would be included in each plan. EMPs may also include a description of monitoring programs required to support effective management practises. All EMPs will be developed in a manner consistent with the EMS.	29	29.1 to 29.22			
		It is anticipated that EMPs may be required in the following areas:					
		• Air quality management plan;	29	29.2	29.2		
		• Aquatic effects monitoring plan;	29	29.3	29.3		
		• Emergency response plan;	29	29.6	29.6		
		• Erosion control plan;	29	29.13	29.13		Titled *Soils Management Plan*.
		• Hazardous materials management plan	29	29.7	29.7		
		• Heritage management plan;	29	29.8	29.8		
		• Metal Leaching/Acid Rock Drainage management plan;	29	29.10	29.10		

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19 *(cont'd)*	Environmental Management Plans *(cont'd)*	• Noise management plan;	29	29.11	29.11		
		• Reclamation and closure plan;	30	30		16-A	
		• Soils management plan;	29	29.13	29.13		
		• Spill prevention and response plan	29	29.14	29.14		
		• Tailings management plan;	29	29.15	29.15		
		• Transportation and access management plan;	29	29.16	29.16		
		• Vegetation management plan;	29	29.5	29.5		Titled *Ecosystem Management Plan*.
		• Waste management plan;	29	29.17	29.17		
		• Waste rock management plan;	29	29.18	29.18		
		• Water management plan; and	29	29.19	29.19		
		• Wildlife management plan.	29	29.21	29.21		
		Additional environmental management and monitoring plans may be developed and added as they are identified.	29	29.4, 29.9, 29.12, 29.14, 29.20	29.4, 29.9, 29.12, 29.14, 29.20	29-A	
20	Reporting	The Application will identify legislated and voluntary reporting requirements that the Proponent must satisfy. This information will be cross-referenced to the relevant EMPs described in Section 17.	29	29.22			
PART E	**OTHER REQUIREMENTS**	Part E of the Application will include a discussion of:					
		• Accidents and Malfunctions; and	31	31			
		• Effects of the Environment on the Project.	32	32.1 to 32.7			
21	Accidents and Malfunctions	The Application will identify the probability of potential accidents and malfunctions related to the Project, including an explanation of how those events were identified, potential consequences (including environmental effects and mitigation), the worst case scenarios and the effects of these scenarios. At minimum, the following accidents and malfunctions will be assessed:	31	All sections			
		• failure of tailings pipeline;	31	31.6.3, 31.6.4, 31.7.4	29.15, 29.18		
		• failure of water treatment plant;	31	31.6.4.1	29.19		
		• failure of water diversion channels;	31	31.6.3	29.19		
		• failure of underground mine stability;	11 31	31.6.4.1	29.6	11-A	
		• explosives mishap;	31	31.6.1, 31.6.4.2	29.6, 29.7		
		• concentrate spills;	31	31.6.4.2, 31.7.6	29.4, 29.5, 29.6, 29.7, 29.14, 29.16		
		• hazardous spills; and	31	31.6.4.2, 31.7.7	29.4, 29.5, 29.6, 29.7, 29.14, 29.16		
		• fuel spills outside secondary containment.	31	31.6.4.2, 31.7.5	29.4, 29.5, 29.6, 29.7, 29.14, 29.16		
		The Application will include:					
		• the spatial and temporal boundaries for the assessment of accidents and malfunctions;	31	31.7.2			
		• the methodology for assessing potential risks;	31	31.4, 31.5			
		• definitions of assessment characterization criteria (e.g., likelihood, magnitude);	31	31.7			
		• identification of the magnitude of the accident and/or malfunction, including the quantity, mechanism, rate, form and characteristics of the contaminants and other materials likely to be released into the environment during the accident and malfunction events;	31	31.6, 31.7			

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AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
21 *(cont'd)*	Accidents and Malfunctions *(cont'd)*	• identification of the likelihood of the accident and/or malfunction occurring;	31	31.6, 31.7			
		• identification of the safeguards that have been established to protect against such occurrences;	31	31.6			
		• detailed contingency/emergency response procedures and plans that will be in place if accidents and/or malfunctions do occur; and	31	31.6			
		• conclusions on the potential risk of the accident or malfunction.	31	31.7, 31.8			
22	Effects of the Environment on the Project	The Application will discuss how local conditions and natural hazards, such as severe and/or extreme weather conditions and external events could adversely affect the Project.	32	32.1 to 32.7			
		Where applicable, these events will be considered in different probability patterns (e.g., 5-year flood vs. 100-year flood).	32	32.2, 32.3			
		Longer-term effects of climate change will also be discussed up to the projected post-closure phase of the Project. This discussion will include a description of the climate data used. At a minimum, the following environmental effects will be analyzed:	32	32.7			
		• extreme temperatures (cold and hot);	32	32.2.3.1, 32.7.3.1			
		• extreme drought and storm conditions (including flooding);	32	32.2, 32.2.2.3, 32.3, 32.7.3.2, 32.7.3.3			
		• forest fires;	32	32.6			
		• geohazards and avalanches;	32	32.5			
		• glaciers;	32	32.5.3			
		• seismic events; and	32	32.5.4			
		• volcanic activity.	32	32.5.5			
		The Application will include details of key planning, design and construction strategies intended to minimize the potential effects of the environment on the Project.	4 32	4.4, 4.6 32.1-32.7			
PART F	**SUMMARY AND CONCLUSIONS**	This section of the Application will provide a summary of the key Project-related and cumulative residual effects on environmental, economic, social, health and heritage VCs. This section of the Application will also outline conditions required to mitigate these effects.	35	35.2.1, 35.2.2, 35.2.3			
23	Summary of Residual Effects	The Application will provide a summary of key Project-related and cumulative residual environmental, economic, social, heritage, or health effects.	35	35.2.1, 35.2.2, 35.2.3			
		This information will be presented in a table form.	35	Table 35.2-1			
24	Summary of Mitigation Measures	The Application will provide a summary of proposed mitigation measures to prevent or reduce adverse environmental, economic, social, heritage, or health effects.	35	35.2.1, 35.2.2, 35.2.3			
		Specific mitigation measures will be presented in a table form.	35	Table 35.2-1			
25	Conclusion	The Application will:					
		• summarize the Proponent's understanding of the BC EA process in promoting development, while minimizing adverse environmental, economic, social, heritage, and health effects;	35	35.1, 35.3			
		• describe how the Project aligns with the goals of the provincial EA process; and	35	35.1, 35.3			
		• explicitly request an EA Certificate for the Project.	35	35.5			
	References	The Application will provide a list of references used in developing the Application.	1 to 35	References			

Application Information Requirements			Application/Environmental Impact Statement				
AIR Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
	Appendices	The Application will include appendices containing copies of documents such as baseline study reports, technical reports prepared in support of the Application, and tables outlining issues raised by government agencies, First Nations, Treaty Nations, local governments and the public during the pre-application stage and responses to the issues.	3			3-A, 3-B, 3-C, 3-D, 3-E, 3-F, 3-G, 3-H, 3-I, 3-J, 3-K, 3-L, 3-M, 3-N	
			4			4-A, 4-B	
			5			5-A, 5-B, 5-C, 5-D, 5-E, 5-F, 5-G, 5-H, 5-I, 5-J	
			7			7-A, 7-B, 7-C	
			8			8-A, 8-B	
			9			9-A, 9-B	
			10			10-A, 10-B, 10-C	
			11			11-A, 11-B, 11-C, 11-D	
			13			13-A, 13-B, 13-C, 13-D, 13-E	
			14			14-A	
			15			15-A, 15-B, 15-C, 15-D	
			16			16-A	
			17			17-A	
			18			18-A, 18-B, 18-C	
			19			19-A, 19-B	
			20			20-A, 20-B	
			21			21-A, 21-B, 21-C, 21-D, 21-E, 21-F, 21-G	
			22			22-A, 22-B	
			23			23-A, 23-B	
			24			24-A, 24-B, 24-C, 24-D	
			25			25-A, 25-B, 25-C	
			29			29-A	

N/A = Not applicable: indicates fields that do not require entry as directed by the Canadian Environmental Assessment Agency

ENVIRONMENTAL IMPACT STATEMENT GUIDELINES — TABLE OF CONCORDANCE

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
4	Summary of Environmental Impact Statement	The proponent will prepare a summary of the EIS in both of Canada's official languages (French and English) to be provided to the Agency at the same time as the EIS and which will include the following:	Summary				
		• a concise description of all key components of the project and related activities;	Summary				
		• a summary of the consultation conducted with Aboriginal groups, the public, and government agencies, including a summary of the issues raised and the proponent's responses;	Summary			3-D, 3-G, 3-I	
		• an overview of the key environmental effects of the project and proposed technically and economically feasible mitigation measures; and	Summary				
		• the proponent's conclusions on the residual environmental effects of the project and the significance of adverse environmental effects after taking mitigation measures into account.	Summary				
		The summary is to be provided as a separate document and should follow the outline provided below:	N/A				
		1. Introduction and Environmental Assessment Context	N/A				
		2. Project Overview	N/A				
		3. Scope of Project and Assessment	N/A				
		4. Alternative Means of Carrying Out the Project	N/A				
		5. Public and Aboriginal Engagement	N/A				
		6. Summary of Environmental Effects Assessment	N/A				
		7. Mitigation Measures	N/A				
		8. Proposed Significance Determination	N/A				
		The summary will have a sufficient level of detail for the reader to learn and understand the entire project, potential impacts, mitigation measures proposed by the proponent, the residual effects, and the conclusions regarding significance.	N/A				
5	Introduction and Project Overview		1				
5.1	Geographical Setting	The EIS will contain a concise description of the geographical setting in which the project will take place.	1				
		This description will focus on those aspects of the project and its setting that are important in order to understand the potential environmental effects of the project.	N/A				
		The description will address the natural and human elements of the environment as well as explain the interrelationships between the biophysical environment, people and communities. The following information will be included:	1	1.4			
		• the UTM coordinates of the main project site;	1	1.4.1			
		• current land use in the area and the relationship of the project facilities and components with any federal lands;	1	1.4.2, 1.5, 1.6			
		• the environmental significance and value of the geographical setting in which the project will take place and the surrounding area;	1	1.6			
		• environmentally sensitive areas, such as national, provincial and regional parks, ecological reserves, wetlands, estuaries, and habitats of federally or provincially listed species at risk and other sensitive areas;	1	1.6			
		• local and Aboriginal communities; and	1	1.4.2, 1.6			
		• traditional Aboriginal territories, treaty lands, Indian reserve lands.	1	1.4.2, 1.6			
		The EIS will provide expanded description and mapping of the project location, including each of the project components as outlined in section 6.0 of this document.	N/A				
		Maps of the project's location at an appropriate scale will accompany the text.	1	1.4.1			

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
5.1 *(cont'd)*	Geographical Setting *(cont'd)*	The location map should include the boundaries of the proposed site including UTM coordinates, the major existing infrastructure, adjacent land uses and any important environmental features.	1	Figure 1.4-1 Figure 1.4-2 Figure 4.1-3 Figure 5.1-2			
		In addition, site plans/sketches and photographs showing project location, site features and the intended location of project components will be included.	1 5	1.5 Figure 5.1-1 Figure 5.1-2			
5.2	Regulatory Framework and the Role of Government	To understand the context of the EA, this section will identify, for each jurisdiction, the government bodies involved in the EA as well as the EA processes. More specifically, this section will identify:	N/A				
		• any federal power duty or function to be exercised that may permit the carrying out (in whole or in part) of the project or associated activities (e.g., the *International River Improvements Act*);	2 5	2.1.2, 2.2.2, 2.3.2, 2.4 5.1.1			
		• the environmental and other specific regulatory approvals and legislation that are applicable to the project at the federal, provincial, regional and municipal levels;	2 5	2.1, 2.2, 2.3, 2.4 5.1.1			
		• government policies, resource management, planning or study initiatives pertinent to the project and/or EA and discuss their implications;	2	2.1, 2.2, 2.3, 2.4			
		• any treaty or self-government agreements with Aboriginal groups that are pertinent to the project and/or EA;	2	2.5			
		• any relevant Land Use Plans, Land Zoning, or Community Plans; and	24	24.2		24-A	
		• a summary of the regional, provincial and/or national objectives, standards or guidelines that have been used by the proponent to assist in the evaluation of any predicted environmental effects.	5	5.1.1			
		Submission of regulatory and technical information necessary for federal authorities to make their regulatory decisions during the conduct of the environmental assessment is at the discretion of the proponent. Although that information is not necessary for the EA decision, the proponent is strongly encouraged to submit it concurrent with the EIS.	N/A				
5.3	Participants in the Environmental Assessment	Clearly identify the main participants in the EA including jurisdictions other than the federal government, Aboriginal groups, community groups, and environmental organizations.	2	2.2.3			
5.4	The Proponent	The proponent will:	1				
		• provide contact information (e.g., name, address, phone, fax, email);	1	1.1.2			
		• identify itself and the name of the legal entity that would develop, manage and operate the project;	1	1.1.1			
		• explain corporate and management structures, as well as insurance and liability management related to the project;	1	1.1.2			
		• specify the mechanism used to ensure that corporate policies will be implemented and respected for the project;	1	1.1.2, 1.1.3			
		• summarize key elements of its environment, health and safety management system and discuss how the system will be integrated into the project; and	1	1.1.3			
		• identify key personnel, contractors, and/or sub-contractors responsible for preparing the EIS.	Acknowledgements				
5.5	Purpose of the Project	The proponent will describe the purpose of the project by providing the rationale for the project, explaining the background, the problems or opportunities that the project is intended to satisfy and the stated objectives from the perspective of the proponent. If the objectives of the project are related to, or contribute to broader private or public sector policies, plans or programs, this information will also be included.	1	1.3			
5.6	Project Overview	The proponent will describe the project, by presenting the project components, associated and ancillary works, activities, scheduling details, the timing of each phase of the project and other characteristics that will assist in understanding the environmental effects. This will include:	5				
		• a characterization of geochemical properties of underground mine materials, waste rock, and foundation materials;	5	5.6			

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
5.6 *(cont'd)*	Project Overview *(cont'd)*	• a description of the geology, based on results from drilling, test pits and sampling programs;	5	5.4			
		• a description of the tailings management facility (hazard classification, location, preliminary designs, tailings properties, and tailings water seepage);	5	5.11.2			
		• a description of the waste rock and overburden storage and stock piles (locations, volumes and development plans; geotechnical conditions, seismicity and design criteria and a description of waste water management components of the project);	5	5.11.1, 5.10		5-D	
		• a description of underground mine (development plans including phases, phase designs, geotechnical and hydrogeological considerations related to stopes, declines, drifts, adits, etc.);	5	5.8.2			
		• a description of water management including treatment plants (underground mine water);	5	5.8.4.1, 5.10, 5.12.16			
		• a description of permanent and temporary access infrastructure, identifying the modifications of current and construction of new access roads, and the location and types of structures used for stream crossings; and	5 23	5.13.1		5-G 23-A, 23-B	
		• in cases where the geotechnical design is based on the observational method, the general nature and geotechnical properties of geological materials will be provided.	5			5-D	
5.7	Project Activities	The EIS will include expanded descriptions of the construction, operation, maintenance, foreseeable modifications, and where relevant, closure, decommissioning and restoration of sites and facilities associated with the proposed project.	1 5	1.8 5.7, 5.8, 5.9, 5.10, 5.11, 5.12, 5.13, 5.15			
		This would include detailed descriptions of the activities to be carried out during each phase, the location of each activity, expected outputs and an indication of the activity's magnitude and scale.	5	5.7, 5.8, 5.9, 5.10, 5.11, 5.12, 5.13, 5.15			
		Although a complete list of project activities is required, the emphasis will be on activities with the greatest potential to have environmental effects.	N/A				
		Sufficient information will be included to predict environmental effects and address public concerns identified. Highlight activities that involve periods of increased environmental disturbance or the release of materials into the environment.	N/A				
		The EIS will include a detailed schedule including time of year, frequency, and duration for all project activities.	5	Figure 5.7-1 Figure 5.8-14 Figure 5.8-15			
		The EIS will provide the preliminary outline of a decommissioning and reclamation plan for any components associated with the project.	5 30	5.15			
		This will include ownership, transfer and control of the different project components as well as the responsibility for monitoring and maintaining the integrity of some of the structures.	5 30	5.15			
		The plan would serve to provide guidance on specific actions and activities to be implemented to decrease the potential for environmental degradation in the long-term during decommissioning and abandonment activities for temporary facilities, and to clearly define the proponent's ongoing environmental commitments.	N/A				
		A conceptual discussion on how decommissioning could occur will be provided for permanent facilities.	5 30	5.15			
6	Scope of Project	The scope of project for the purposes of the EA includes the components (listed below), project activities (section 5.7) and federal decisions (section 5.2).	1 2 5				
		The proponent will consider all the components, activities and decisions identified in these sections as part of the effects assessment.	1 5				
		Based on information received in the project description from the proponent, the Agency defines the scope of project to be assessed as the construction, operation and decommissioning of the following project components:	N/A				

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
6 *(cont'd)*	Scope of Project *(cont'd)*	• mine portal	N/A				
		• ventilation shafts	N/A				
		• waste rock transfer pad	N/A				
		• run-of-mine ore stockpile	N/A				
		• ore conveyor	N/A				
		• surface and underground crushers	N/A				
		• mill/concentrator	N/A				
		• backfill paste plant	N/A				
		• tailings pipeline	N/A				
		• subaqueous disposal of waste rock and tailings	N/A				
		• backfill of waste rock and tailings underground	N/A				
		• diversion channels	N/A				
		• back-up power plant	N/A				
		• transmission line and ancillary components	N/A				
		• warehouse	N/A				
		• truck shop	N/A				
		• helicopter pad	N/A				
		• sewage treatment plant and related activities (e.g., sludge disposal)	N/A				
		• water treatment plant	N/A				
		• incinerator	N/A				
		• electric induction furnace	N/A				
		• landfill	N/A				
		• mine site haul roads and activities related to transportation along access roads up to Highway 37	N/A				
		• aerodrome	N/A				
		• transfer station	N/A				
		• fuel storage tanks	N/A				
		• surface and underground explosives storage	N/A				
		• up to a 550-person modular camp	N/A				
		• administration offices	N/A				
7	Scope of Assessment						
7.1	Factors to be Considered						
7.1.1	Valued Components	The proponent will identify the VCs deemed appropriate to ensure the full consideration of the factors listed in subsection 19(1) of CEAA 2012 as well as the 2012 amendment to section 79 of the *Species at Risk Act*.	N/A				
		As a minimum, the proponent must consider the list of environmental components provided in section 9.1 of this document.	N/A				
		The final list of VC to be presented in the EIS will be completed according to the evolution and design of the project and reflect the knowledge acquired on the environment through public and Aboriginal consultations.	N/A				

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.1.1 *(cont'd)*	Valued Components *(cont'd)*	The proponent will describe how the VCs were selected and what methods were used to predict and assess the adverse environmental effects of the project on these components.	6 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.4.1 12.4.1 13.4.1 14.4.1 15.4.1 16.4.1 17.4.1 18.4.1 19.4.1 20.4.1 21.4.1 22.4.1 23.4.1 24.4.1 25.4.1			
		The VCs will be described in sufficient detail to allow the reviewer to understand their importance and assess the potential for environmental effects arising from the project activities.	N/A				
		The rationale for selecting these components as VCs and for excluding others will be stated.	6 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.4.1 12.4.1 13.4.1 14.4.1 15.4.1 16.4.1, 16.4.2 17.4.1 18.4.1 19.4.1 20.4.1 21.4.1 22.4.1 23.4.1 24.4.1 25.4.1			
		Challenges may arise regarding particular exclusions, so it is important to document the information and the criteria used to make each determination.	N/A				
		Examples of justification include primary data collection, computer modelling, literature references, public consultation, expert input or professional judgement.	6 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.4.1 12.4.1 13.4.1 14.4.1 15.4.1 16.4.1, 16.4.2 17.4.1 18.4.1 19.4.1 20.4.1 21.4.1 22.4.1 23.4.1 24.4.1 25.4.1			

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.1.1 *(cont'd)*	Valued Components *(cont'd)*	If comments are received on a component that has not been included as a VC, these comments will be summarised and addressed in this section.	6 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	6.4.1.2 12.4.1.2 13.4.1.2 14.4.1.2 15.4.1.2 16.4.2.1 17.4.1.2 18.4.1.2 19.4.1.2 20.4.1.2 21.4.1.2 22.4.1.2 23.4.1 24.4.1.2 25.4.1.2 26.3.4, 26.3.5 27.4.7			
		For consultations associated with the identification of VCs, the proponent will identify those VCs, processes, and interactions that either were identified to be of concern during any workshops or meetings held by the proponent or that the proponent considers likely to be affected by the project.	3 6 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	 6.4.1.2 12.4.1.2 13.4.1.2 14.4.1.2 15.4.1.2 16.4.2.1 17.4.1.2 18.4.1.2 19.4.1.2 20.4.1.2 21.4.1.2 22.4.1.2 23.4.1 24.4.1.2 25.4.1.2 26.3.4, 26.3.5 27.4.7		3-E, 3-H, 3-J	
		In doing so, the proponent will indicate to whom these concerns are important and the reasons why, including Aboriginal, social, economic, recreational, and aesthetic considerations.	6 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	6.4.1.2 12.4.1.2 13.4.1.2 14.4.1.2 15.4.1.2 16.4.2.1 17.4.1.2 18.4.1.2 19.4.1.2 20.4.1.2 21.4.1.2 22.4.1.2 23.4.1 24.4.1.2 25.4.1.2 26.3.4, 26.3.5 27.4.7			

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.1.1 *(cont'd)*	Valued Components *(cont'd)*	The proponent will describe any issues raised or comments noted regarding the nature and sensitivity of the area within and surrounding the project and any planned or existing land and water use in the area.	6 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.4.1.2 12.4.1.2 13.4.1.2 14.4.1.2 15.4.1.2 16.4.2.1 17.4.1.2 18.4.1.2 19.4.1.2 20.4.1.2 21.4.1.2 22.4.1.2 23.4.1 24.4.1.2 25.4.1.2			
		The proponent will also indicate the specific geographical areas or ecosystems that are of particular concern to interested parties, and their relation to the broader regional environment and economy.	6 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.4.1.2 12.4.1.2 13.4.1.2 14.4.1.2 15.4.1.2 16.4.2.1 17.4.1.2 18.4.1.2 19.4.1.2 20.4.1.2 21.4.1.2 22.4.1.2 23.4.1 24.4.1.2 25.4.1.2			
7.1.2	Effects of Potential Accidents or Malfunctions	The proponent will identify the probability of potential accidents and malfunctions related to the project, including an explanation of how those events were identified, potential consequences (including the environmental effects), the plausible worst case scenarios and the effects of these scenarios.	31	31.3, 31.4, 31.5, 31.6, 31.7		11-A, 11-C	
		The geographical and temporal boundaries for the assessment of malfunctions and accidents may be different than those in the scope of factors for each VC.	N/A				
		This will include an identification of the magnitude of an accident and/or malfunction, including the quantity, mechanism, rate, form and characteristics of the contaminants and other materials likely to be released into the environment during the accident and malfunction events.	31	31.5, 31.6, 31.7		11-C	
		The EIS will also describe the safeguards that have been established to protect against such occurrences and the contingency/emergency response procedures in place if accidents and/or malfunctions do occur.	31	31.6			
		Detailed contingency and response plans will be presented.	29 31	 31.6	29.2 to 29.21		
7.1.3	Effects of the Environment on the Project	The EIS will take into account how local conditions and natural hazards, such as severe and/or extreme weather conditions and external events (e.g., flooding, drought, ice jams, landslides, avalanches, erosion, subsidence, fire, outflow conditions and seismic events) could adversely affect the project and how this in turn could result in impacts to the environment (e.g., extreme environmental conditions result in malfunctions and accidental events).	32	32.2, 32.3, 32.4, 32.5, 32.6		5-H	
		These events will be considered in different probability patterns (i.e. 5-year flood vs. 100-year flood).	32	32.2, 32.3, 32.5			
		Longer-term effects of climate change will also be discussed up to the projected post-closure phase of the project.	32	32.7			

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.1.3 *(cont'd)*	Effects of the Environment on the Project *(cont'd)*	This discussion will include a description of climate data used and an analysis of the interaction of the portion of the access road that crosses the glacier.	32	32.2.1, 32.7.2, 32.7.3, 32.7.4		5-G	
		The EIS will provide details of a number of planning, design and construction strategies intended to minimize the potential environmental effects of the environment on the project.	32	32.2, 32.3, 32.4, 32.5, 32.6			
7.2	Scope of the Factors						
7.2.1	Spatial Boundaries	The EIS will clearly indicate the spatial boundaries to be used in assessing the potential adverse environmental effects of the proposed project and provide a rationale for each boundary. It is recognized that the spatial boundaries for each VC may not be the same.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.4.2 7.4.2.1 8.4.2.1 9.4.2.1 10.4.2.1 11.4.3.1 12.4.2.1 13.4.1.5 14.4.2.1 15.4.2.1 16.4.3.1 17.4.2.1 18.4.2.1 19.4.2.1 20.4.2.1 21.4.2.1 22.4.2.1 23.4.2.1 24.4.2.1 25.4.2.1			
		Spatial boundaries will be defined taking into account as applicable the appropriate scale and spatial extent of potential environmental effects, community and Aboriginal traditional knowledge, current land and resource use by Aboriginal groups, ecological, technical and social and cultural considerations.	N/A				
		The description of the project setting will be presented in sufficient detail to address the relevant environmental effects of the project.	N/A				
		The proponent is advised to consult with the Agency, federal and provincial government departments and agencies, local government and Aboriginal groups, and take into account public comment when defining the spatial boundaries used in the EIS.	N/A				
7.2.2	Temporal Boundaries	The temporal boundaries of the EA will span all phases of the project: construction, operation, maintenance, foreseeable modifications, and where relevant, closure, decommissioning and restoration of the sites affected by the project.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.4.2 7.4.2.2 8.4.2.2 9.4.2.2 10.4.2.2 11.4.3.2 12.4.2.2 13.4.1.6 14.4.2.2 15.4.2.2 16.4.3.1 17.4.2.2 18.4.2.2 19.4.2.2 20.4.2.2 21.4.2.2 22.4.2.2 23.4.2.2 24.4.2.2 25.4.2.2			

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
7.2.2 *(cont'd)*	Temporal Boundaries *(cont'd)*	Temporal boundaries will also consider variations related to VCs for all phases of the project, where appropriate.	N/A				
		Community and Aboriginal traditional knowledge should factor into decisions around appropriate temporal boundaries.	N/A				
		If the temporal boundaries do not span all phases of the project, the EIS will identify the boundaries used and provide a rationale.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.4.2 7.4.2.2 8.4.2.2 9.4.2.2 10.4.2.2 11.4.3.2 12.4.2.2 13.4.1.6 14.4.2.2 15.4.2.2 16.4.3.2 17.4.2.2 18.4.2.2 19.4.2.2 20.4.2.2 21.4.2.2 22.4.2.2 23.4.2.2 24.4.2.2 25.4.2.2			
8	Alternative Means of Carrying out the Project	The EIS will identify and consider the effects of alternative means of carrying out the project that are technically and economically feasible.	N/A				
		Identify the alternative means to carry out the project.	N/A				
		• Develop criteria to determine the technical and economic feasibility of the alternative means.	4	4.2, 4.3			
		• Identify those alternative means that are technically and economically feasible, describing each alternative means in sufficient detail.	4	4.2, 4.3			
		Identify the effects of each alternative means.	4	4.4, 4.5, 4.6			
		• Identify in sufficient detail those elements of each alternative means that could produce effects to allow a comparison with the effects of the project.	4	4.4, 4.5, 4.6			
		• The effects referred to above include both environmental effects and potential adverse impacts on potential or established Aboriginal and Treaty rights and related interests.	4	4.4, 4.5, 4.6			
		Identify the preferred means.	4	4.4, 4.5, 4.6			
		• Determine criteria to examine the effects of each alternative means to identify the preferred means.	4	4.2			
		• Identify the preferred means based on the relative consideration of effects and on technical and economic feasibility.	4	4.3, 4.4, 4.5			
		In its alternative means analysis, the proponent will address, for example, the following project components:	N/A				
		• ore production technologies: underground extraction method; ore processing methods;	N/A				
		• mine waste disposal including rock, paste and tailings disposal; contaminated water treatment;	N/A			4-A, 4-B	
		• tailings pipeline;	N/A			4-A, 4-B	
		• energy sources for the mine complex operations including back-up power plant;	N/A				
		• location of infrastructure related to the mine and the operation of the mine, including the location of the final effluent discharge point; and	N/A				
		• transportation methods and routes for processed ore and any materials needed to operate the mine.	N/A				

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				Comments
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	
8.1	Assessment of Alternatives for Mine Waste Disposal	In the event that the proponent needs to use natural water bodies frequented by fish for the disposal of mine waste, including tailings and waste rock, and for the management of process water, the *Metal Mining Effluent Regulations* (MMER) would need to be amended to add the affected water bodies to Schedule 2 to designate them as Tailings Impoundment Areas (TIAs).	N/A				
		This regulatory process will not be initiated until a detailed assessment of alternatives for mine waste disposal has been undertaken by the proponent.	N/A				
		Should an MMER Schedule 2 amendment be required for the project, the proponent is strongly encouraged to include MMER requirements for an assessment of alternatives for mine waste disposal in the EIS.	N/A				
		The proponent needs to undertake a robust and thorough assessment of mine waste disposal alternatives, which applies methodology that is provided in Environment Canada's *Guidelines for the Assessment of Alternatives for Mine Waste Disposal (2011)*.	N/A				
		Pursuant to the MMER requirements, the assessment of alternatives for mine waste disposal will objectively consider all available options for mine waste disposal, including at least one that does not impact a natural water body frequented by fish.	N/A				
		It will qualitatively and quantitatively assess the environmental, technical and socio-economic aspects of each alternative.	N/A				
		Both the short term impacts of each alternative and the long term risks through the closure and post closure phases will be assessed.	N/A				
		The assessment of alternatives for mine waste disposal needs to include all aspects of the project that may contribute to the predicted impacts associated with the proposed TIA.	N/A				
		The economic component of the assessment will consider the full costs of each alternative throughout the mine life cycle, from construction through post-closure, including long term maintenance and monitoring requirements, as well as costs associated with the legislated requirement for a compensation plan to offset fish habitat loss.	N/A				
9	Baseline Conditions		6	6.3			
9.1	Existing Environment		6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.3 7.3 8.3 9.3 10.3 11.3 12.3 13.3 14.3 15.3 16.3 17.3 18.3 19.3 20.3 21.3 22.3 23.3 24.3 25.3	 7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A 19-A 21-A 22-A, 22-B 24-A, 24-B 25-A, 25-B, 25-C	

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.1.1	Methodology	The EIS will include a description of the environment, including the components of the existing environment and environmental processes, their interrelations and interactions as well as the variability in these components, processes and interactions over time scales appropriate to the project.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.3 7.3 8.3 9.3 10.3 11.3 12.3 13.3 14.3 15.3 16.3 17.3 18.3 19.3 20.3 21.3 22.3 23.3 24.3 25.3		 7-A, 7-B 8-A 9-A 10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D 16-A 17-A 18-A 19-A 21-A 22-A, 22-B 24-A, 24-B 25-A, 25-B, 25-C	
		The description will be sufficiently detailed to characterize the environment before any disturbance to the environment due to the project and to identify, assess and determine the significance of the potential adverse environmental effects of the project.	N/A				
		This data should include results from studies done prior to any physical disruption of the environment due to initial site clearing activities.	N/A				
		The information describing the existing environment may be provided in a stand-alone chapter of the EIS or may be integrated into clearly defined sections within the effects assessment of each VC.	N/A				
		This analysis will include environmental conditions resulting from historical and present activities in the local and regional study area.	N/A				
		In describing the physical and biological environment, the proponent will take an ecosystem approach that considers both scientific and traditional knowledge and perspectives regarding ecosystem health and integrity.	N/A				
		The proponent will identify and justify the indicators and measures of ecosystem health and integrity used for analysis and relate these to the identified VCs and proposed monitoring and follow-up measures.	N/A				
		For the biophysical environment, baseline data in the form of inventories alone are not sufficient to assess effects.	N/A				
		The proponent will consider the resilience of relevant species populations, communities and their habitats.	N/A				
		The proponent will summarize all pertinent historical information on the size and geographic extent of relevant animal populations as well as density, based on best available information.	N/A				
		Where little or no information is available, specific studies will be designed to gather further information on species populations, densities and the interrelations of these species to the ecosystem.	N/A				
		Habitat at regional and local scales should be defined in ecological mapping of aquatic and terrestrial vegetation types and species (e.g., ecological land classification mapping).	N/A				
		Habitat use will be characterized by type of use (e.g., spawning, breeding, migration, feeding, nursery, rearing, wintering), frequency and duration.	6 15 18	6.3.3 15.3 18.3		 15-A, 15-B, 15-C 18-B	
		This assessment will consider all relevant variations for all VCs as appropriate.	N/A				

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.1.1 *(cont'd)*	Methodology *(cont'd)*	Emphasis will be on those species, communities and processes identified as VCs.	N/A				
		However, the interrelations of these components and their relation to the entire ecosystem and communities of which they are a part will be indicated (e.g., population-level risk assessment).	6 7 8 14 15 16 17 18 21	6.5.1 7.4.3, 7.9 8.4.3, 8.9 14.5, 14.6, 14.7 15.5, 15.6, 15.7 16.5.3, 16.5.1, 16.5.5 17.3.5 18.6, 18.7 21.5			
		The proponent will address issues such as habitat, nutrient and chemical cycles, food chains, productivity, to the extent that they are appropriate to understanding the effect of the project on ecosystem health and integrity.	N/A				
		Range and probability of natural variation over time will also be considered.	N/A				
		The proponent will also examine changes in the distribution, populations, behaviour, and availability of wildlife, fish, and flora in the important context of implications to current use of lands and resources by Aboriginal peoples.	6 16 18 25	6.5.1 16.3.6, 16.5 18.5, 18.6 25.5.1.3, 25.5.2.3, 25.5.3.2			
		If the baseline data have been extrapolated or otherwise manipulated to depict environmental conditions in the study areas, modelling methods and equations will be described and will include calculations of margins of error and other relevant statistical information, such as confidence intervals and possible sources of error.	7 8 9 10 13 16 17 18 19 21	7.5.2 8.5 9.5 10.5 13.6.1 16.5 17.6.1 18.3.3, 18.3.4 19.5 21.3.4, 21.6		7-C 8-B 9-B 10-B, 10-C 13-B 19-B 21-A	
9.1.2	Biophysical Environment	Based on the scope of project described in section 6, the proponent will present the following baseline information to facilitate the identification of valued components (VC) for the purposes of the environmental assessment.	N/A				
		Should other VCs be identified during the conduct of the EA, these will also be described in the EIS	N/A				
		Atmospheric Environment and Climate The EIS will describe the following:					
		• ambient air quality in the project areas and, for the mine site, the results of a baseline survey of ambient air quality, informed by site-specific measurements and/or available data from other representative sites including the following contaminants: Total Suspended Particulates, $PM_{2.5}$, PM_{10}, SOx, VOCs and NOx;	7	7.3.3.2, 7.3.4.2		7-B	
		• current ambient noise levels within the local study area. Information on typical sound sources, geographic extent and temporal variations will be included; and	8	8.3		8-A	
		• historical records of total precipitation (rain and snow), mean, maximum and minimum temperatures.	7	7.3.3.1 7.3.4.1		7-A	
		Terrestrial Environment-Geology and Geochemistry The EIS will describe the following:					
		• A discussion of the bedrock and host rock geology of the deposit which includes a table of geologic descriptions, geological maps and cross-sections of appropriate scale. Where appropriate, the following geologic parameters will be included:	5 9	5.4, 5.6 9.3		5-B 9-A	

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.1.2 *(cont'd)*	Biophysical Environment *(cont'd)*	– Maps of surficial and bedrock geology showing the distribution of geologic units;	9	9.3		9-A	
		– Representative lithologic and sediment descriptions including: age, colour, grain size, porosity, moisture conditions, permeability, mineralogy, physical strength, hardness, weathering characteristics, depositional setting and correlations of surficial and bedrock units;	5 9	5.4		5-B 9-A	
		– A geological stratigraphic framework for the surficial sediments and bedrock as appropriate in support of hydrogeological assessments. In particular, delineation of key stratigraphic and hydrogeologic boundaries, the spatial distribution and thickness of lithologic units shown in plan and cross-section;	9	9.3		9-A	
		– Alteration styles, mineralogy, bulk chemistry, trace metal chemistry occurrence and intensity of bedrock units;	5	5.4.3.2, 5.6		5-B	
		– Structural fabric (e.g., joints and fractures, faults, foliation and lineation) and structural relationships, structural characterization of the rock formations impacted by the project;	5 9	5.4.2.3, 5.4.3.3 9.3		9-A	
		– Ore mineralogy, including sulphide types, abundance, mode of occurrence, extent of previous oxidation and an estimate of relative sulphide reactivity;	5	5.4.4, 5.5, 5.6		5-B	
		– Type and grade of metamorphism; and	5	5.4.2.3, 5.4.3.3			
		– Regional geologic framework including tectonic belt, terrane, regional metamorphism and structure.	5	5.4.1			
		• A delineation of the regional and local geological structures in the project area that may affect the proposed infrastructure. This includes major structural features as well as lesser local structures, their ecological functions and distribution in the local study area;	5	5.4.1, 5.4.2, 5.4.3			
		• Geomorphology and topography of areas proposed for construction of major project components;	11 16	11.3		 16-A	
		• Bedrock lithology, morphology, geomorphology and soils where earthworks are proposed;	11 16	11.3		 16-A	
		• A description of geological hazards that exist in the areas planned for the project facilities and infrastructure, including :	11			11-A, 11-B	
		– History of seismic activity in the area;	32	32.5.4	29.6		
		– Isostatic rise or subsidence;	11			11-C	
		– Landslides, slope erosion and the potential for ground and rock instability, and subsidence following project activities; and	5 11	11.3.4, 11.6.3, 11.7.4		5-F 11-A, 11-B, 11-C	
		– History of landslide-generated tsunamis if near a shoreline.	32	32.5.1.1			
		• Sites of paleontological or palaeobotanical significance; and	22	22.4.1.3			
		• A characterization of the geochemical composition of expected mine materials such as waste rock, ore, low grade ore, tailings, overburden and potential construction material, which will include:	5	5.6		5-B	
		– Mineralogy;	5	5.6		5-B	
		– Elemental composition of host lithologies and ore in study area (major and trace elements); and	5	5.6		5-B	
		– Potential for acid generation, neutralization and contaminated neutral drainage.	5	5.6		5-B	
		<u>Acid Rock Drainage/Metal Leaching</u> The ARD/ML prediction information will be used to predict water quality for effects assessment and to determine mitigation requirements for the project. Additional information will be provided on the following:	N/A				
		• the type and method used for the ARD/ML prediction and possible mitigation measures;	5 13	13.5.2.2, 13.5.3.2	29.3, 29.10	5-B	
		• waste rock, tailings and low grade ore characterization, volumes, segregation/disposal method mitigation/management plans, contingency plans, operational and post-closure monitoring and maintenance plans;	5 13 30	13.5.2.2, 13.5.3.2 30.11	29.3, 29.10, 29.15, 29.18, 29.19	5-B	

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.1.2 *(cont'd)*	Biophysical Environment *(cont'd)*	• assessment of short term metal leaching properties;	5 13	 13.6	29.10	5-B	
		• longer term kinetic testing to evaluate rates of acid generation (if any) and metal leaching;	5		29-10	5-B	
		• assessment of the feasibility to successfully segregate potentially-acid generating (PAG) and non-potentially acid generating (NPAG) waste materials during operations, proposed geochemical segregation criteria and identification of operational methods that will be required to achieve geochemical characterization during operations (i.e., geochemical surrogates, on site lab, procedures needed, etc.);	5		29.10, 29.18	5-B	
		• sensitivity analysis to assess the effects of imperfect segregation of waste rock;	5			5-B	
		• estimates of the potential for mined materials (including waste rock, tailings and low grade ore) to be sources of ARD or ML; estimates of potential time to the onset of ARD or ML; and the ability to prevent or control ARD and ML during operation and post-closure;	5		29.10, 29.18	5-B	
		• mine water chemistry during operation and post-closure, and mine closure management measures (e.g., flooding). This will include geochemical modeling of mine water quality in the post-closure period;	5 13 30	5.15.2 13.5.2.2, 13.6.1, 13.6.2 30.11		13-B, 13-C, 13-D, 13-E	
		• surface and seepage water quality from the waste rock dumps, tailings/waste rock impoundment facility, stockpiles and other infrastructure during operation and post-closure;	9 5	9.6		 5-B	
		• ARD/ML prevention/management strategies under a temporary or early closure scenario, including low grade ore;	5 30	 30.8	29.10, 29.18	5-B	
		• quantity and quality of leachate from samples of tailings, waste rock, and ore;	5	5.6		5-B	
		• quantity and quality of effluent to be released from the site into the receiving waters; and	5 13	 13.6.1, 13.6.2		5-B 13-B, 13-C, 13-D	
		• quality of humidity cell or column test liquid from acid rock testing.	5	5.6		5-B	
		Surficial Geology (i.e., Terrain and Soil) The EIS will describe the following:					
		• Baseline mapping and description of landforms and landform processes and soils within the local and regional project area;	11 16	11.3 16.3		 16-A	
		• Description of surface sediments at proposed borrow and quarry sites, and other areas where earthworks are proposed. If the sedimentary deposits are identified as a potential source of granular material a description should be included;	16	16.3			
		• Maps depicting soil depth by horizon and soil order within the mine site area to support soil salvage and reclamation efforts, and to outline potential for soil erosion;	11 16	11.3		 16-A	
		• Sedimentological and geochemical characteristics of surficial sedimentary units and soils;	11 16	11.3		 16-A	
		• A description/details of soil sample analysis completed and the quality assurance/quality control program followed;	11 16	11.3 16.3.9		 16-A	
		• Suitability of topsoil and overburden for use in the re-vegetation of surface-disturbed areas; and	11 16	11.3 16.3		 16-A	
		• A summary of the baseline data on the concentration of trace elements in site soils prior to project development.	11 16	11.3 16.3.9		 16-A	
		If there is permafrost in the study area the EIS will including the following information:	9			9-A	
		• Discussion of the geomorphologic and topographic features at areas proposed for construction of major project components, including the type, thickness, and distribution of soils as applicable;	9 16	 16.3		9-A 16-A	

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.1.2 *(cont'd)*	Biophysical Environment *(cont'd)*	• Discussion of permafrost conditions including distribution of frozen and unfrozen ground, thermal conditions (ground temperatures), ground ice, thaw sensitivity and active layer thickness;	9			9-A	
		• Discussion of the potential for thaw settlement and terrain instability associated with ground thawing;	9			9-A	
		• Description of the morphology, geomorphology and soils (including sediments and the thermal and ground ice conditions) at proposed borrow and quarry sites, and other areas where earthworks are proposed. If the sedimentary deposits are identified as a potential source of granular material then a description of granular material properties, including thermal condition and ice content, will also be described;	9			9-A	
		• Discussion of the relationship between permafrost conditions and associated processes and active layer, topography, drainage conditions and surface hydrology;	9			9-A	
		• Details regarding the suitability of topsoil and overburden for use in the re-vegetation of surface- disturbed areas;	9			9-A	
		• Description of permafrost distribution (i.e., distribution of frozen and unfrozen ground) in the local project area, high ice-content soils, ice lenses, thaw-sensitive slopes, and talik zones; and	9			9-A	
		• Description of permafrost temperatures at areas planned for project facilities and infrastructure, including discussion of sensitivity to warming induced by project activities (construction and operation of facilities) or climate change, and implications for integrity, performance and safety of infrastructures.	9			9-A	
		Water Resources The EIS will describe the following:					
		• An appropriate hydrogeologic model will be presented for the project area, which discusses the hydrostratigraphy and groundwater flow systems, including the rationale for the selected model.	9	9.3		9-B	
		• A detailed conceptual model will be provided. Model input parameters and boundary conditions will be clearly defined. Model inputs will be based on a sufficiently large data set and be conservative in nature. The model will be calibrated against baseline conditions and should be tested using site groundwater monitoring data to confirm the generated model.	9	9.3		9-A, 9-B	
		• A sensitivity analysis will be performed to test model sensitivity to climatic variations (e.g., recharge) and hydrogeologic parameters (e.g., hydraulic conductivity);	9	9.3		9-B	
		• A description of the hydrogeology at the site and at local and regional study areas. The description will:	9	9.3		9-A, 9-B	
		– Characterize the hydrogeological context (e.g., hydrostratigraphy with aquifers and aquitards, major faults etc.) including the delineation of key stratigraphic and hydrogeologic boundaries;	9	9.3		9-A, 9-B	
		– Characterize the physical properties of the hydrogeological units (e.g., hydraulic conductivity, transmissivity, saturated thickness, storativity, porosity, specific yield);	9	9.3		9-A, 9-B	
		– Delineate regional and local and site groundwater flow patterns and rates; discuss the hydrogeologic, hydrologic, geomorphic, climatic and anthropogenic controls on groundwater flow;	9	9.3		9-A, 9-B	
		– Include a detailed groundwater budget;	9	9.3		9-A, 9-B	
		– Discuss temporal changes in groundwater flow (e.g., seasonal and long term changes in water levels);	9	9.3		9-A, 9-B	
		– Identify recharge and discharge areas;	9	9.3		9-A, 9-B	
		– Delineate and characterize groundwater and surface water interactions including the locations of groundwater discharge to surface water and surface water recharge to groundwater, and characterize perennial surface water flow (e.g., spatial extent and magnitude of baseflow);	9 13	9.3 13.4.2, 13.5.1, 13.5.3,		9-A, 9-B 13-C	
		– Describe baseline groundwater and baseflow quality and the water type with their spatial distribution (zones);	9	9.3		9-A, 9-B	
		– Describe and locate the groundwater sources used as drinking water in the study area, their current use and potential for future use; and	9			9-A	
		– In permafrost regions, describe configuration of frozen ground and taliks and the influence on groundwater flow.	9			9-A	

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.1.2 *(cont'd)*	Biophysical Environment *(cont'd)*	• An inventory and analysis of existing information on the hydrogeological conditions/groundwater resources in the project area, including published reports, geological maps well record data (from water wells, monitoring wells and production wells) and Quality Assurance/Quality Control (QA/QC) procedures followed;	9	9.3		9-A	
		• Hydrogeologic maps and cross-sections for the mine area to outline the extent of aquifers and aquitards, including bedrock fracture and fault zones, locations and depths of wells, groundwater types springs, surface waters, and project facilities. Groundwater levels, potentiometric contours and flow directions should be included;	9	9.3		9-A	
		• A review of the physical geography (e.g., topography and physiographic units) and the geology of the area as it pertains to local and regional groundwater flow systems and aquifer/aquitard systems;	9	9.3		9-A	
		• Maps showing groundwater divides and areas of recharge and discharge, with project components overlain;	9	Figure 9.4-2			
		• Location and description of all groundwater monitoring wells in respect to the project area, including geologic, hydrostratigraphic, piezometric and construction data (e.g., depths of surficial and bedrock units, water level, hydraulic conductivity, diameter and screen depth and intercepted aquifer unit);	9	9.3		9-A	
		• A description of baseline groundwater level data for regional and local flows in all aquifer units • (overburden and bedrock units);	9	9.3		9-A	
		• A description of monitoring protocol for collection of existing groundwater data;	9	9.3		9-A	
		• Measurements of hydraulic conductivity (or transmissivity) for all hydrogeological units in the project area;	9	9.3		9-A	
		• Results of the modeling of baseline hydrogeological conditions (refer to hydrogeological modeling section);	9	9.5, 9.6		9-B	
		• Graphs or tables indicating the seasonal variations in groundwater levels, flow regime, and quality;	9	9.3		9-A	
		• Tables of baseflow measurements or estimates;	9	9.6			
		• A description of local and regional potable groundwater supplies, including their current use and potential for future use, as appropriate;	9	9.3		9-A	
		• Baseline analysis of groundwater and baseflow quality at the site and within the regional and local study area, including methods of sampling and analysis and details of QA/QC. This includes determining natural groundwater types and measuring concentrations of major constituents as well as minor and trace components. Ensure that particular attention is given to the components that would be, from an environmental point of view, potentially of interest in the course of mining operations. This analysis should be performed on sediment and bedrock aquifers;	9	9.5, 9.6		9-A	
		• Bedrock fracture sizes and orientations in relation to groundwater flow; and	9	9.3		9-A	
		• Evaluation of discharge rates.	9	9.3		9-A, 9-B	
		The EIS will describe surface water quality, hydrology and sediment quality within the area of influence of the project.	10 13 14	10.3 13.3.4 14.3.4		10-A 13-A 14-A	
		The baseline will provide the basis for the assessment of potential effects to surface water, presenting the range of water and sediment quality and surface water hydrology.	N/A				
		Furthermore, the EIS will describe:	N/A				
		• The delineation of drainage basins, at appropriate scales;	10	10.3.3		10-A	
		• The assessment of hydrological regimes,	10	10.3.4		10-A	
		• Flows or design peak flows for selected periods for the project area;	10	10.3.4		10-A	
		• Any local and regional potable surface water resource; and	21	21.3.3.3 Figure 21.2-3			
		• Seasonal water quality field and lab analytical results and interpretation at several representative local stream and lake monitoring stations established at the project site.	13	13.3.4 Figure 13.3-1		13-A	

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.1.2 *(cont'd)*	Biophysical Environment *(cont'd)*	*Wetlands*					
		Wetlands that may be affected by project activities will be characterized according to their location, size, type (wetland class and form), species composition and ecological function (Canadian Wetland Classification System (National Wetlands Working Group [NWWG] 1997)).	17	17.3.4, 17.3.5			
		Efforts should focus on describing the wetlands with the greatest potential to be affected, (i.e. within the project footprint).	N/A				
		An overview of the key plant communities and animals that rely on wetlands will be presented.	17	17.4.3		17-A	
		Fish and Fish Habitat					
		The EIS will describe the limnology, hydrology, freshwater biota, presence of fish and other freshwater species, associated habitats and habitat distribution and fisheries in potentially affected surface waters, based on available published information, information resulting from community consultation, and/or results of on-site baseline surveys. Furthermore, the EIS will describe the following:	10 13 14 15	10.3.1 to 10.3.4 13.3.4 14.3.1, 14.3.3, 14.3.4 15.3.1, 15.3.3, 15.3.4		10-A 13-A 14-A 15-A, 15-B, 15-C, 15-D	
		• Characterize fish populations on the basis of species and life stage for affected water bodies (i.e., project footprint, upstream and downstream);	15	15.3.1, 15.3.3, 15.3.4		15-A, 15-B, 15-C, 15-D	
		• List any rare fish or invertebrates species that are known to be present; and	14 15	14.3.3 15.3.1		14-A 15-A, 15-B, 15-C	
		• Identify any potential waterbodies and fish habitat sites that could be rehabilitated, restored or created for possible habitat gains to offset losses from the project if expected.	15	15.5.1.1, 15.5.1.2			
		In order to allow analysis of the project's effects, the EIS will document the physical and biological characteristics of the fish and fish habitat likely to be directly or indirectly affected by the project.	14 15	14.3 15.3		14-A 15-A, 15-B, 15-C, 15-D	
		The EIS will illustrate, on a topographic scale map, the hydrographic network (water bodies and watercourses), including intermittent streams, flood risk areas and wetlands.	10 14 15	10.3.3.1 14.3.3, 14.3.4 15.3.3, 15.3.4		10-A 14-A 15-A, 15-B, 15-C	
		It will also indicate the boundaries of the watershed and subwatersheds of the study area.	10	10.3		10-A	
		Emphasis will be placed on the watercourses and water bodies likely to be affected by the project and their physical characteristics, water quality and hydrological regime.	N/A				
		Hence, for all the watercourses and water bodies on which effects are anticipated, the EIS will describe the biophysical characteristics, including:	14 15	14.3 15.3		15-A, 15-B, 15-C	
		• For each watercourse, indicate the name of the watercourse and provide a description of the habitat by homogeneous section. The parameters that must be determined are length of the section, width of the channel from the high water mark (bankful width), water depths, type of substrate (sediments), aquatic and riparian vegetation, including bank slopes. It is recommended that photos be attached to the description;	15	15.3		15-A, 15-B, 15-C	
		• For each lake or water body affected, indicate the name of the water body and provide a description. The parameters that must be determined are total surface area, bathymetry, maximum and mean depths, water level fluctuations, type of substrate (sediments), and location of submerged, floating and emergent aquatic vegetation, and water quality parameters (e.g. water temperature, turbidity, pH, dissolved oxygen profiles);	13 14 15	13.3 14.3 15.3		13-A 14-A 15-A, 15-B, 15-C	
		• Monthly/seasonal/annual water flow (discharge) data, including minimum and maximum flows;	10	10.3.4		10-A	
		• Natural obstacles (e.g. falls, beaver dams) or existing structures (e.g. water crossings) that hinder the free passage of fish; and	15	15.3		15-A, 15-B, 15-C	

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.1.2 *(cont'd)*	Biophysical Environment *(cont'd)*	• Preparation of habitat maps at a suitable scale indicating the surface area of habitat for spawning, nursery, feeding, migration routes, etc. This information should be linked to water depths (bathymetry) to identify the extent of a lake's littoral zone.	13 15			13-A 15-A, 15-B, 15-C	
		Fish sampling survey methods used will be described in order to allow experts to ensure the quality of the information provided. If studies on fish and fish habitat were carried out previously, they are to be submitted with the EIS.	14 15	14.3 15.3		14-A 15-A, 15-B, 15-C, 15-D	
		For all watercourses or water bodies on which the project is likely to have effects, the EIS will:	15	15.3			
		• Describe the fish species present on the basis of the surveys carried out and the data available (e.g., electric and experimental fishing, government and historical databases, sport fishing data). Identify the sources of the data and provide the information concerning the fishing carried out (e.g., location of sampling stations, catch methods, date of catches, species);	15	15.3		15-A, 15-B, 15-C, 15-D	
		• Specify the location and surface area of potential or confirmed fish habitats and describe how they are used by fish (spawning, rearing, growth, feeding, migration, overwintering);	15	15.3		15-A, 15-B, 15-C	
		• Locate and describe suitable habitats for species at risk that appear on federal and provincial lists and that are found or are likely to be found in the study area;	15	15.3		15-A, 15-B, 15-C	
		• Document any blasting activity near water where vibrations may affect fish behaviour, such as spawning or migrations; and	15	15.4.3.1			
		• Indicate how fish passage will be maintained for sites where stream crossings are to be installed, constructed or modified.	15	15.5.1.2			
		Birds, Wildlife and their Habitat					
		The EIS will describe migratory and non-migratory birds (including for example waterfowl, raptors, shorebirds, marsh birds and songbirds), ungulates, furbearers, amphibians, small mammals, and their habitat at the project site and within the local and regional areas.	18	18.3.1.5		18-A, 18-B	
		The results of any baseline surveys and a description of the methodology will be included.	18	18.3.3.1, 18.3.3.2		18-A, 18-B	
		Preliminary data from existing sources will be gathered on year-round migratory bird use of the area (e.g., winter, spring migration, breeding season, fall migration).	18	18.3.5.1, 18.3.5.3		18-A, 18-B	
		In addition to information obtained from naturalists, other relevant datasets should be consulted.	N/A				
		Existing data will be supplemented by surveys, where necessary. Surveys should be designed with reference to the Canadian Wildlife Service's guidance such as Technical Report No. 508, A Framework for the Scientific Assessment of Potential Project Impacts on Birds (Hanson et al. 2009).	N/A				
		Other wildlife and their habitat that could be impacted by project activities will be characterized using existing data, supplemented by surveys as appropriate.	18	18.3.4, 18.3.5, 18.3.6		18-A, 18-B	
		The EIS will give particular consideration to areas of concentration of migratory animals, such as breeding, denning and/or wintering areas, as well as breeding areas of species low in number and high in the food chain, (e.g. furbearers such as grizzly bears).	N/A				
		The description of the existing environment will include consideration of existing or proposed protected areas, special management areas, and conservation areas in the regional study area.	N/A				
		Species at Risk and Species of Conservation Concern					
		As background for the analysis of the project's effects on Species at Risk (SAR), the EIS will:					
		• Identify all SARs that may be affected by the project, using existing data and literature as well as surveys to provide current field data, as appropriate;	15 16 17 18	15.2.3, 15.3.1, 15.4.1 16.3.5, 16.3.8 17.6.3 18.3.1.4, 18.3.1.5		 16-A 18-A, 18-B	

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.1.2 *(cont'd)*	Biophysical Environment *(cont'd)*	• Incorporate any published studies that describe the regional importance, abundance and distribution of SARs; and	16 18	16.3.5, 16.3.8, 16.5.5.7 18.3.3.2		16-A 18-A, 18-B	
		• Identify residences, seasonal movements, movement corridors, habitat requirements, key habitat areas, identified critical habitat and/or recovery habitat (where applicable) and general life history of SARs that may occur in the project area, or be affected by the project.	18	18.3.4.2, 18.3.4.3, 18.3.4.5, 18.3.5.1, 18.3.5.2, 18.5.5.3, 18.5.6.1		18-A, 18-B	
		Ecosystems (i.e. grassland, temperate forest)					
		The EIS will describe the various ecosystems found in the project area which are likely to be affected by the project.	16	16.3.4.1 to 16.4.11, 16.3.5 to 16.3.8		16-A	
		Flora					
		The EIS will describe potential or known plant species and ecological communities in the project area, which are listed under the *Species at Risk Act* or other provincial or territorial endangered species legislation, and critical habitat that are likely to be affected by the project; This is a minimum list that is not meant to be exhaustive. The proponent may consider the inclusion of other biophysical VCs in the EIS.	16	16.3.5, 16.3.8			
		The species selected within each biotic VC should include those of importance to health and socio- economic conditions, cultural heritage and the current use of land and resources for traditional purposes by Aboriginal persons.	N/A				
9.1.3	Human Environment	The definition of the human environment will be interpreted broadly. Based on the scope of project described in section 6, the following VCs will be identified and described in the relevant sections of the EIS:					
		• Land use context (e.g., hunting, fishing, outdoor recreation, use of seasonal cabins, existing land development);	24	24.3		24-A, 24-B, 24-C, 24-D	
		• Health and socio-economic conditions;	19 20 21	19.3 20.3 21.3		19-A 20-A, 20-B 21-A	
		• Physical and cultural heritage, including structures, sites or things of historical, archaeological, paleontological or architectural significance;	22 25	22.3 25.3		22-A, 22-B 25-B	
		• Current use of land and resources for traditional purposes by Aboriginal persons; and	25	25.3		25-A, 25-B, 25-C	
		• In describing how the project may impede navigation, the EIS will:					
		– identify any Project components and a description of any activities (e.g., dredging, alteration of water bed and/or water banks) that may affect waterways and water bodies;	23	23.4.1.1		23-A	
		– describe any recreational uses of natural waters (i.e., swimming, canoeing, fishing); and	23	23.3.1.2, 23.3.5			
		– provide information on current and/or historic usage of all waterways and water bodies that will be directly affected by the project, including current Aboriginal uses, where available.	23	23.3.2, 23.3.5			
		This is a minimum list that is not meant to be exhaustive. The proponent may consider the inclusion of other human environment VCs in the EIS.					
		The proponent will include all baseline information relevant to human health in one section of the EIS. The proponent should refer to Health Canada's *Useful Information for Environmental Assessments* document in order to include the appropriate baseline information relevant to human health.	21	21.1, 21.2, 21.2.4, 21.3, 21.4.1		21-A	
		In describing the socio-economic environment, the proponent will provide information on the functioning and health of the socio-economic environment, encompassing a broad range of matters that affect communities and Aboriginal peoples in the study area in a way that recognizes interrelationships, system functions and vulnerabilities.	19 20	19.3 20.3		19-A	
		A description of the rural and urban settings likely to be affected by the project will be provided.	20	20.3		19-A	

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9.1.3 *(cont'd)*	Human Environment *(cont'd)*	In describing physical and cultural heritage, the proponent will provide information on heritage resources, including structures, sites or things of historical, archaeological, paleontological or architectural significance.	22	22.3		22-A, 22-B	
		In describing current uses of land and resources by Aboriginal groups for traditional purposes, the proponent will include activities related, but not limited, to hunting, fishing, trapping, cultural and other traditional uses of the land, (e.g., collection of medicinal plants, use of sacred sites).	21 25	21.3.3.3, 21.3.3.4, 21.3.4.1, 21.3.4.2, 21.3.4.3, 21.3.4.4 25.3.3.1, 25.3.3.2, 25.3.3.3, 25.3.3.4		 25-A, 25-B, 25-C	
		Potential effects on current uses include access to areas that are of importance or concern to Aboriginal groups.	25	25.4.3.1			
9.2	Potential or Established Aboriginal and Treaty Rights and Related Interests	For the purposes of developing the EIS, the proponent will engage with Aboriginal groups whose potential or established Aboriginal rights and Treaty rights and related interests may be affected by the project.	N/A				
		The proponent will hold meetings and facilitate these by making key EA summary documents (baseline studies, EIS and key findings) accessible and making plain language summaries of these documents available to the following groups.	3 26 27	3.3, 3.4, 3.5 26.3 27.3			
		• Nisga'a Lisims Government	3 27	3.3, 3.4, 3.5 27.3		3-D	
		• Tahltan Central Council	3 26	3.3, 3.4, 3.5 26.3		3-D	
		• Skii Km Lax Ha First Nation	3 26	3.3, 3.4, 3.5 26.3		3-D	
		There are additional Aboriginal groups whose interests may be affected but who are further removed from the project and its related effects. These Aboriginal groups include, but are not limited to:	3 26	3.5 26.1			
		• Métis Nation BC	3 26	3.5 26.3		3-D	
		For this additional group, the proponent must make key EA summary documents (Draft/Final EIS and key findings) accessible and make plain language summaries of these documents available and ensure this group's views are heard and recorded.	3 26	3.5 26.3		3-D	
		At a minimum, the EIS will summarize available information on the potential or established Aboriginal and Treaty rights and related interests of the named Aboriginal groups that have the potential to be adversely impacted by the project. As part of this summary, the EIS will include for each Aboriginal group:	25 26 27	25.3 26.2, 26.5, 26.6 27.1.2, 27.4, 27.5			
		• background information and a map of the group's traditional territory;	25 26 27	25.3 26.1.1, 26.2 27.1, 27.2			
		• a summary of engagement activities conducted prior to the submission of the EIS, including the date and means of engagement (e.g., meeting, mail, telephone);	3 26 27	3.5.2, 3.5.3 26.3 27.3		3-D	
		• information on each group's potential or established rights (including geographical extent, nature, frequency, timing), including maps and data sets (e.g. fish catch numbers) when this information is provided by a group to the proponent;	25 26 27	25.3 26.2, 26.5, 26.6 27.2, 27.1.2, 27.4, 27.5		25-A, 25-B, 25-C	
		• an overview of key comments and concerns provided by each group to the proponent;	3 26 27	3.5.3 26.3.4, 26.3.5 27.3.6		3-E	
		• responses provided by government and/or the proponent, as appropriate;	3 26 27	 26.3.4 27.3.6		3-E	

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
9.2 *(cont'd)*	Potential or Established Aboriginal and Treaty Rights and Related Interests *(cont'd)*	• future planned engagement activities; and	3 26 27	3.5.4, 3.5.5 26.3.6 27.3.5			
		• efforts undertaken to engage with Aboriginal groups as part of developing the information identified above.	3 26 27	3.5 26.3 27.3			
		The proponent will describe all efforts, successful or not, taken to solicit the information required to prepare the EIS.	3 25 26 27	3.5 25.3 26.3 27.3		3-D	
		The proponent will specifically assess whether the project can reasonably be expected to have adverse environmental effects on residents of Nisg̲a'a, Nisg̲a'a Lands, or Nisg̲a'a interests set out in the *Nisg̲a'a Final Agreement* (NFA) and, where appropriate, make recommendations to prevent or mitigated those effects as set out in paragraph 8 (e), Chapter 10 of the NFA.	27	27.4			
		The proponent will also assess the effects of the project on the existing and future economic, social and cultural well-being of Nisg̲a'a citizens who may be affected by the project as set out in paragraph 8 (f), Chapter 10 of the NFA.	27	27.5			
10	Effects Assessment						
10.1	Environmental Effects						
10.1.1	Methodology	The proponent will indicate the project's effects during construction, operation, maintenance, foreseeable modifications, and where relevant, closure, decommissioning and restoration of sites and facilities associated with the project, and describe these effects using appropriate criteria.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7.4, 7.5, 7.6 8.4, 8.5, 8.6 9.4, 9.5, 9.6 10.4, 10.5, 10.6 11.4, 11.5, 11.6 12.4.1.1, 12.4.3, 12.5.1, 12.6 13.4, 13.5, 13.6. 13.7, 13.8 14.4, 14.5, 14.6, 14.7 15.4, 15.5, 15.6, 15.7 16.5.1 to 16.5.5 17.4.3, 17.5, 17.6.4, 17.6.5, 17.6.6 18.4, 18.5, 18.6, 18.7 19.4, 19.5, 19.6, 19.7 20.4, 20.5, 20.6, 20.7 21.4, 21.5, 21.6, 21.7 22.4, 22.5, 22.6 23.4, 23.5, 23.6, 23.7 24.4, 24.5, 24.6, 24.7 25.4, 25.5, 25.6, 25.7			

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
10.1.1 *(cont'd)*	Methodology *(cont'd)*	To the maximum extent possible, this documentation will include, for each potential project-related environmental effect, an indication of the nature of the effect, mechanism, magnitude, duration, frequency, geographic extent, and the degree to which it may be reversible.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7.8 8.8 9.8 10.8 11.8 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 22.6 23.5 24.7, 24.8 25.7, 25.8			
		The proponent will consider both the direct and indirect, reversible and irreversible, short- and long-term environmental effects of the project.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7.8 8.8 9.8 10.8 11.8 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 22.6 23.5 24.7, 24.8 25.7, 25.8			
		In predicting and assessing the project's effects, the proponent will indicate important details and clearly state the elements and functions of the environment that may be affected, specifying the location, extent and duration of these effects and their overall impact.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7.8 8.8 9.8 10.8 11.8 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 22.6 23.5 24.7, 24.8 25.7, 25.8			

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
10.1.1 *(cont'd)*	Methodology *(cont'd)*	The assessment of the effects of each of the project components and physical activities, in all phases, will be based on a comparison of the biophysical and human environments between the predicted future conditions with the project and the predicted future conditions without the project.	N/A				
		In undertaking the environmental effects assessment, the proponent will use best available information and methods. All conclusions will be substantiated. Predictions will be based on clearly stated assumptions. The proponent will describe how it has tested each assumption.	N/A				
		With respect to quantitative models and predictions, the proponent will discuss the assumptions that underlie the model, the quality of the data and the degree of certainty of the predictions obtained.	N/A				
		Risk Assessment Framework					
		The proponent is expected to employ, where appropriate, standard ecological risk assessment frameworks that categorize the levels of detail and quality of the data required for the assessment. These tiers are as follows:	N/A				
		• Tier 1: Qualitative (expert opinion, including traditional and local knowledge, literature review, and existing site information);	N/A				
		• Tier 2: Semi-quantitative (measured site-specific data and existing site information); and	N/A				
		• Tier 3: Quantitative (recent field surveys and detailed quantitative methods).	N/A				
		Thus, if the Tier 2 assessment still indicates a potential for effects to VCs, a Tier 3 assessment may need to be conducted to reduce the level of uncertainty.	N/A				
		If the risk characterization component is uncertain this may necessitate the probabilistic modelling of the population-level consequences of the proposed project.	N/A				
		Biophysical changes to the environment that may impact human health include changes to: air quality, water quality, noise levels, contaminants in country food sources, and radiation levels. Such changes in the biophysical environment, as described in Section 9 (Baseline Conditions), can impact human health. When risks to human health due to changes in one or more of these components are predicted, a complete *Human Health Risk Assessment* (HHRA) examining all exposure pathways for pollutants of concern may be necessary to adequately characterize potential risks the human health.	N/A				
		Impact Matrix An impact matrix methodology in combination with identification of VCs should be used to evaluate environmental effects of the proposed project, including those related to Aboriginal peoples. The assessment will include the following general steps:	N/A				
		• identification of the activities and components of the project;	N/A				
		• predicting/evaluating the likely effects on identified valued components;	N/A				
		• identification of technically and economically feasible mitigation measures for any significant adverse environmental effects;	N/A				
		• determination of any residual environmental effects;	N/A				
		• ranking of each residual adverse environmental effect based on various criteria; and	N/A				
		• determination of the potential significance of any residual environmental effect following the implementation of mitigation.	N/A				
		Application of Precautionary Approach In documenting the analyses included in the EIS, the proponent will:	1	1.2.1			
		• demonstrate that all aspects of the project have been examined and planned in a careful and precautionary manner in order to ensure that they would not cause serious or irreversible damage to the environment, especially with respect to environmental functions and integrity, system tolerance and resilience, and/or the human health of current or future generations;	1	1.2.1			
		• outline and justify the assumptions made about the effects of all aspects of the project and the approaches to minimize these effects;	1	1.2.1			

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10.1.1 *(cont'd)*	Methodology *(cont'd)*	• ensure that in designing and operating the project, priority has been and would be given to strategies that avoid the creation of adverse effects;	1 4	1.2.1 4.2.2			
		• develop contingency plans that explicitly address accidents and malfunctions; and	31	31.7			
		• identify any proposed follow-up and monitoring activities, particularly in areas where scientific uncertainty exists in the prediction of effects.	29		29.2, 29.5, 29.9, 29.12, 29.13, 29.20		
10.1.2	Changes to the Environment	The EIS will describe any change that may be caused by the project (as scoped in section 6 of this document) on the environment, which is defined as the components of the Earth, including:	N/A				
		• land, water and air, including all layers of the atmosphere;	N/A				
		• all organic and inorganic matter and living organisms; and	N/A				
		• the interacting natural systems that include the components described above.	N/A				
		These descriptions will be integrated into the effects assessment sections of each VC included in the EIS.	7 8 9 10 11 12 13 14 15 16 17 18	7.6, 7.7, 7.8 8.6, 8.7, 8.8 96, 9.7, 9.8 10.6 , 10.7, 10.8 11.6, 11.7, 11.8 12.6, 12.7, 12.8 13.6, 13.7, 13.8 14.6, 14.7, 14.8 15.6, 15.7, 15.8 16.6, 16.7, 16.8 17.6, 17.7, 17.8 18.6, 18.7, 18.8		7-C 8-B 9-B 10-B, 10-C 11-A, 11-B, 11-C 13-B, 13-C, 13-D, 13-E 18-C	
		Changes to Components of the Environment within Federal Jurisdiction					
		The EIS will include a stand-alone section that summarises those changes that may be caused by the project on the components of the environment listed in paragraph 5(1)(a) of CEAA 2012, namely fish and fish habitat, aquatic species and migratory birds.	33	33.1			
		Changes to the Environment that would occur on Federal or Transboundary Lands					
		The EIS will include a stand-alone section that summarises any change the project may cause to the environment that may occur on federal lands or lands outside the province in which the project is to be located (including outside of Canada).	33	33.2			
		Changes to the Environment that are Directly Linked or Necessarily Incidental to Federal Decisions					
		In situations where the project requires one or more federal decisions identified in section 5.2, the EIS will also include a stand-alone section that describes any change that may be caused by the project on the environment that is directly linked or necessarily incidental to these decisions.	33	33.3			
10.1.3	Effects of Changes to the Environment	*Effects of Changes to the Environment on Aboriginal Peoples*					
		The EIS will describe the effects of any changes the project may cause to the environment, with respect to Aboriginal people on: • health and socio-economic conditions;	19 20	19.4.3.2 20.4.3.4			
		• physical and cultural heritage;	22 25	22.4.1.3 22.5 to 22.8			
		• the current use of lands and resources for traditional purposes;	25	25.5 to 25.10			
		• or any structure site or thing that is of historical, archaeological, paleontological or architectural significance.	22	22.4.1.3			
		Effects of Changes to the Environment that are Directly Linked or Necessarily Incidental to Federal Decisions					

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10.1.3 *(cont'd)*	Effects of Changes to the Environment *(cont'd)*	In situations where the EIS has identified changes to the environment that are directly linked or necessarily incidental to federal decisions identified in section 5.2, the EIS will also include a stand-alone section that describes the effects of these changes on health and socio-economic conditions, physical and cultural heritage, or any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, other than as they pertain to Aboriginal peoples (who are considered in the above section).	33	33.4			
10.2	Adverse Impacts on Aboriginal and Treaty Rights and Related Interests	The EIS will describe, from the perspective of the proponent, the potential adverse impacts of the project on the ability of Aboriginal peoples to exercise the potential or established Aboriginal and Treaty rights and related interests identified in section 9.2. As part of this description, this section will summarise:	26 27	26.5, 26.6 27.9			
		• Potential adverse impacts (on potential or established Aboriginal and Treaty rights and related interests) that were identified through the environmental effects described in sections 10.1.2 and 10.1.3;	26 27	26.5, 26.6 27.9			
		• Specific issues and concerns raised by Aboriginal groups in relation to the potential adverse impacts of the project on potential or established Aboriginal and Treaty rights and related interests;	26 27	26.3.4 27.4.8			
		• VCs suggested for inclusion in the EIS, whether or not those factors were included, and the rationale for any exclusions;	26 27	26.3.5, 26.3.7 27.4.8			
		• Where and how Aboriginal traditional knowledge or other Aboriginal views were incorporated into the consideration of environmental effects and potential adverse impacts on potential or established Aboriginal and Treaty rights and related interests; and	26	26.3.5			
		• Efforts undertaken to engage with Aboriginal groups as part of collecting the information identified above.	25 26 27	25.3 26.3 27.4			
		The assessment of the potential adverse impacts of each of the project components and physical activities, in all phases, will be based on a comparison of the exercise of the identified rights between the predicted future conditions with the project and the predicted future conditions without the project.	25	25.9.5			
		It is recommended that the impact matrix methodology described in section 10.1.1 be adapted for this purpose.	N/A				
10.3	Public Concerns	This section will detail public concerns raised in relation to the project, including through public consultation conducted prior to the preparation of the EIS, and/or community knowledge that may have been provided.	3	3.7.1.3, 3.7.2		3-J	
11	Mitigation						
11.1	Environmental Mitigation						
11.1.1	Methodology	The EIS will describe the standard mitigation practices, policies and commitments that constitute technically and economically feasible mitigation measures and that will be applied as part of standard practice regardless of location.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7.7 8.7 9.7 10.7 11.7, 12.5.2 13.5.2, 13.5.4 14.5.3 15.5 16.5.7 17.5.2.2 18.5 19.5 20.5 21.5.1.2, 21.5.2.2, 21.5.3.2, 21.5.4.2 22.5.1.2 23.5 24.5 25.5.1.6, 25.5.2.6, 25.5.3.5, 25.5.4.3	29.2 to 29.21		

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11.1.1 *(cont'd)*	Methodology *(cont'd)*	The proponent will then describe its environmental protection plan and its environmental management system, through which it will deliver these measures.	29		29.2 to 29.21		
		The plan will provide an overall perspective on how potentially adverse effects would be minimized and managed over time.	N/A				
		The EIS will then describe mitigation measures that are specific to each environmental effect identified in section 10.1.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7.7 8.7 9.7 10.7 11.7, 12.5.2 13.5.2, 13.5.4 14.5.3 15.5.1.2 16.5.7 17.5 18.5 19.5.1 20.5.1.2, 20.5.2.2, 20.5.2.3 21.5 22.5.1.3 23.5.2 24.5.1.4 25.5	29.2 to 29.21		
		Measures will be written as specific commitments that clearly describe how the proponent intends to implement them.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7.7 8.7 9.7 10.7 11.7, 12.5.2 13.5.2, 13.5.4 14.5.3 15.5.1.2 16.5.7 17.5 18.5 19.5.1 20.5.1.2, 20.5.2.2, 20.5.2.3 21.5 22.5.1.3 23.5.2 24.5.1.4 25.5	29.2 to 29.21		
		Where mitigation measures have been identified in relation to species and/or critical habitat listed under the *Species at Risk Act*, the mitigation measures will be consistent with any applicable recovery strategy and action plans.	N/A				

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11.1.1 *(cont'd)*	Methodology *(cont'd)*	The EIS will describe proponent commitments, policies and arrangements directed at promoting beneficial or mitigating adverse socio-economic effects.	19 20 21 22 23 24 25 35	19.5.1 20.5 21.5 22.5.1.3 23.5.2 24.5.1.4 25.5 35.4	29.2, 29.4, 29.7, 29.8, 29.11, 29.14, 29.16		
		The EIS will further discuss the mechanisms the proponent would use to require its contractors and sub-contractors to comply with these commitments and policies and with auditing and enforcement programs.	28	28.4, 28.5.1.7			
		The EIS will specify the actions, works, minimal disturbance footprint techniques, best available technology, corrective measures or additions planned during the project's various phases (construction, operation, modification, decommissioning, abandonment or other undertaking related to the project) to eliminate or reduce the significance of adverse effects.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7.7 8.7 9.7 10.7 11.7, 12.5.2 13.5.2, 13.5.4 14.5.3 15.5.1.2 16.5.7 17.5 18.5 19.5.1 20.5.1.2, 20.5.2.2, 20.5.2.3 21.5 22.5.1.3 23.5.2 24.5.1.4 25.5	29.2 to 29.21		
		The impact statement will also present an assessment of the effectiveness of the proposed technically and economically feasible mitigation measures.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7.7 8.7 9.7 10.7 11.7, 12.5.2 13.5.2, 13.5.4 14.5.3 15.5.1.2 16.5.7 17.5 18.5 19.5.1 20.5.1.2, 20.5.2.2, 20.5.2.3 21.5 22.5.1.3 23.5.2 24.5.1.4 25.5			

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
11.1.1 *(cont'd)*	Methodology *(cont'd)*	The reasons for determining if the mitigation measure reduces the significance of an adverse effect will be made explicit.	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7.7 8.7 9.7 10.7 11.7, 12.5.2 13.5.2, 13.5.4 14.5.3 15.5.1.2 16.5.7 17.5 18.5 19.5.1 20.5.1.2, 20.5.2.2, 20.5.2.3 21.5 22.5.1.3 23.5.2 24.5.1.4 25.5			
		The EIS will indicate what other technically and economically feasible mitigation measures were considered, including the various components of mitigation, and explain why they were rejected.	4	4.4, 4.5			
		Trade- offs between cost savings and effectiveness of the various forms of mitigation will be justified.	4	4.4, 4.5			
		The EIS will identify who is responsible for the implementation of these measures and the system of accountability.	28	28.5			
		Where mitigation measures are proposed to be implemented for which there is little experience or for which there is some question as to their effectiveness, the potential risks and effects to the environment should those measures not be effective will be clearly and concisely described.	N/A				
		In addition, the EIS will identify the extent to which technology innovations will help mitigate environmental effects.	N/A				
		Where possible, it will provide detailed information on the nature of these measures, their implementation, management and the development of the Follow-up Program as described in section 11.4.	N/A				
		Adaptive management is not considered a valid mitigation measure, but if the Follow-up Program indicates that corrective action is required, the proposed approach for managing the response should be identified.	N/A				
11.1.2	Summary of Environmental Mitigation	In addition, the EIS will summarise the mitigation measures, follow-up and related commitments identified to address the categories of environmental effects specified in section 10:					
		• changes to components of the environment within federal jurisdiction;	33	33.1			
		• changes to the environment that would occur on federal or transboundary lands;	33	33.2			
		• changes to the environment that are directly linked or necessarily incidental to federal decisions;	33	33.3			
		• effects of changes to the environment on Aboriginal peoples; and	33	33.4.1			
		• effects of changes to the environment that are directly linked or necessarily incidental to federal decisions.	33	33.4.2			
11.2	Measures to Address Impacts on Aboriginal and Treaty Rights	This section will describe, from the perspective of the proponent, the measures identified to mitigate the potential adverse impacts of the project described in section 10.2 on the potential or established Aboriginal and Treaty rights and related interests identified in section 9.2.	25 26 27	25.5.1.6, 25.5.2.6, 25.5.3.5 26.6 27.4.2, 27.5.2, 27.6			

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
11.2 *(cont'd)*	Measures to Address Impacts on Aboriginal and Treaty Rights *(cont'd)*	These measures will be written as specific commitments that clearly describe how the proponent intends to implement them. This description will include a summary of:	25 26 27	25.5.1.6, 25.5.2.6, 25.5.3.5 26.6 27.4.2, 27.5.2, 27.6			
		• specific suggestions raised by Aboriginal groups for mitigating the potential adverse impacts of the project on potential or established Aboriginal and Treaty rights and related interests in relation to environmental effects specified in sections 10.1.2 and 10.1.3;	25	25.5.1.6, 25.5.2.6, 25.5.3.5			No specific mitigation was raised by Aboriginal groups to minimize adverse effects.
		• environmental mitigation measures identified in section 11.1 that also serve to address potential adverse impacts on potential or established Aboriginal and Treaty rights and related interests;	25 26 27	25.5.1.6, 25.5.2.6, 25.5.3.5 26.6 27.4.2			
		• any potential cultural, social and/or economic impacts or benefits to Aboriginal groups that may arise as a result of the project;	19 20 26 27	19.5.1 20.5.1, 20.5.2, 20.5.3 26.8.1, 26.8.2 27.5			
		• where and how Aboriginal traditional knowledge or other Aboriginal views were incorporated into the mitigation of environmental effects of potential adverse impacts on potential or established Aboriginal and Treaty rights and related interests; and	25	25.5.1.6, 25.5.2.6, 25.5.3.5, 26.3.5, 27.5			
		• efforts undertaken to engage with Aboriginal groups as part of developing the information identified above.	25 26 27	25.3 26.3 27.3		3-D	
		In preparing the EIS, the proponent will ensure that Aboriginal people and groups have access to the information that they require in respect of the project and of how it may impact them.	3 27	3.5.2.1, 3.5.4, 3.5.5 27.3		3-D, 3-K	
		The proponent will describe all efforts, successful or not, taken to solicit the information required to prepare the EIS.	25 26 27	25.3 26.3 27.3		3-D	
		The proponent will structure its Aboriginal engagement activities to provide adequate time for Aboriginal groups to have reviewed the relevant information in advance and to ensure there are sufficient opportunities for individuals and groups to provide oral input in the language of their choosing.	3	3.5.2.1, 3.5.4, 3.5.5		3-K	
		Consultation activities must be appropriate to the groups' needs and should be arranged through discussions with the groups.	3	3.5.2.1, 3.5.4, 3.5.5		3-K	
11.3	Measures to Address Public Concerns	This section will describe measures identified for addressing public concerns in relation to the project identified in section 10.3.	3	3.7.2			
		Measures will be written as specific commitments that clearly describe how the proponent intends to implement them.	3			3-J	
		For any consultations undertaken with the general public, the EIS will describe the ongoing and proposed consultations and information sessions with respect to the project at the local, regional and provincial levels, where applicable.	3	3.7		3-M	
		The EIS will provide a summary of discussions, indicate the methods used and their relevance, locations, the persons and organizations consulted, the concerns raised, the extent to which this information was incorporated in the design of the project as well as in the EIS, and the resultant changes.	3	3.4, 3.7		3-I, 3-J	
		The proponent will also provide a description of efforts made to distribute project information and provide a description of information and materials that were distributed during the consultation process.	3	3.4, 3.7		3-I	
11.4	Follow-up Program	A Follow-up Program is designed to verify the accuracy of the effects assessment and to determine the effectiveness of the measures implemented to mitigate the adverse effects of the project.	N/A				

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
11.4 *(cont'd)*	Follow-up Program *(cont'd)*	The EIS will describe the proposed Follow-up Program in sufficient detail to allow independent judgment as to the likelihood that it will deliver the type, quantity and quality of information required to reliably verify predicted effects (or absence of them), and to confirm both the assumptions and the effectiveness of mitigation.	35	35.3			
		The Follow-up Program will include specific commitments that clearly describe how the proponent intends to implement them.	35	35.3, 35.4			
		The Follow-up Program will be designed to incorporate baseline data, compliance data (such as established benchmarks, regulatory documents, standards or guidelines) and real time data (such as observed data gathered in the field).	N/A				
		The proponent will describe the reporting methods to be used, including frequency, methods and format.	35	35.3			
		The effects predictions, assumptions and mitigation actions that are to be tested in the follow-up program must be converted into field-testable monitoring objectives.	35	35.3	29.2, 29.3, 29.7, 29.9, 29.10, 29.11, 29.12, 29.13, 29.14, 29.18, 29.19, 29.20, 29.21		
		The monitoring design must include a statistical evaluation of the adequacy of existing baseline data to provide a benchmark against which to test for project effects, and the need for any additional pre-construction or pre-operational monitoring to establish a firmer project baseline.	35	35.3	29.2, 29.3, 29.7, 29.9, 29.10, 29.11, 29.12, 29.13, 29.14, 29.18, 29.19, 29.20, 29.21		
		The Follow-up Program will include a schedule indicating the frequency and duration of effects monitoring.	35	35.3	29.2, 29.3, 29.7, 29.9, 29.10, 29.11, 29.12, 29.13, 29.14, 29.18, 29.19, 29.20, 29.21		
		This schedule is to be developed after an evaluation of the length of time needed to detect effects given estimated baseline variability, likely magnitude of environmental effect and desired level of statistical confidence in the results (Type 1 and Type 2 errors).	35	35.3			
		The description of the Follow-up Program will include any contingency procedures/plans or other adaptive management provisions as a means of addressing unforeseen effects or for correcting exceedances as required to comply or to conform to benchmarks, regulatory standards or guidelines.	35	35.3	29.2, 29.3, 29.7, 29.9, 29.10, 29.11, 29.12, 29.13, 29.14, 29.18, 29.19, 29.20, 29.21		
		The Follow up Program will also be designed to monitor the implementation of mitigation measures resulting from Aboriginal consultation, including:	35	35.3, 35.4			
		• verifying predictions of environmental effects with respect to Aboriginal peoples, as well as residual impacts that could not be addressed within the context of the EA;	35	35.3, 35.5			
		• determining the effectiveness of mitigation measures as they relate to environmental effects with respect to Aboriginal peoples in order to modify or implement new measures where required;	35	35.3.2			
		• supporting the implementation of adaptive management measures to address previously unanticipated adverse environmental effects with respect to Aboriginal peoples or unanticipated adverse impacts to Aboriginal rights;	35	35.3.2			
		• verifying measures identified to prevent and mitigate potential adverse effects of the project on potential or established Aboriginal and Treaty rights; and	35	35.3.2			
		• providing information that can be used to improve and/or support future EAs and Aboriginal consultation processes.	35	35.3.2			

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
11.4 *(cont'd)*	Follow-up Program *(cont'd)*	Where appropriate, the Follow-up Program can also encompass measures identified to address public concerns identified in section 11.3.	N/A				
11.5	Proponent Commitments	Proponent commitments identified in the EIS, including environmental mitigation measures to address public and Aboriginal peoples concern, and Follow-up Program elements, may be considered for inclusion as conditions in the EA decision statement and/or as part of other compliance and enforcement mechanisms. Each commitment will be specific, achievable, measurable and verifiable, and described in a manner that avoids ambiguity in intent, interpretation and implementation.	N/A				
12	Residual Effects						
12.1	Residual and Cumulative Effects						
12.1.1	Residual Environmental Effects	After having established the technically and economically feasible mitigation measures, the EIS will present any residual environmental effects of the project on the biophysical and human environments after these mitigation measures have been taken into account.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25	6.8 7.8 8.8 9.8 10.8 11.8 12.6, 12.7, 12.8 13.6, 13.7, 13.8 14.6, 14.7, 14.8 15.6, 15.7, 15.8 16.6, 16.7, 16.8, 16.9 17.6, 17.7, 17.8 18.6, 18.7, 18.8 19.6, 19.7, 19.8 20.6, 20.7, 20.8 21.6, 21.7, 21.8 22.6 24.6, 24.7, 24.8 25.6, 25.7, 25.8			
	The residual effects, even if very small or deemed insignificant will be described.		6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25	6.8 7.8 8.8 9.8 10.8 11.8 12.6, 12.7, 12.8 13.6, 13.7, 13.8 14.6, 14.7, 14.8 15.6, 15.7, 15.8 16.6, 16.7, 16.8, 16.9 17.6, 17.7, 17.8 18.6, 18.7, 18.8 19.6, 19.7, 19.8 20.6, 20.7, 20.8 21.6, 21.7, 21.8 22.6 24.6, 24.7, 24.8 25.6, 25.7, 25.8			

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
12.1.2	Cumulative Environmental Effects	The proponent will identify and assess the project's cumulative effects using the approach described in the Agency's Operational Policy Statement *Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act*.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.9, 6.10, 6.11 7.10 8.10 9.10 10.10 11.10 12.9 13.9 14.9 15.9 16.10 17.9 18.9 19.9 20.9 21.9 22.7 23.6 24.9 25.9			
		Cumulative effects are defined as changes to the environment due to the project combined with the existence of other works or other past, present and reasonably foreseeable physical activities. Cumulative effects may result if:					
		• implementation of the project being studied caused direct residual negative effects on the environmental components, taking into account the application of technically and economically feasible mitigation measures; and/or	N/A				
		• the same environmental components are affected by other past, present or reasonably foreseeable physical activities.	N/A				
		The EIS will describe the analysis of the total cumulative effect on a VC over the life of the project, including the incremental contribution of all current and proposed physical activities, in addition to that of the project.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.9, 6.10, 6.11 7.10 8.10 9.10 10.10 11.10 12.9 13.9 14.9 15.9 16.10 17.9 18.9 19.9 20.9 21.9 22.7 23.6 24.9 25.9			

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
12.1.2 *(cont'd)*	Cumulative Environmental Effects *(cont'd)*	The EIS will include different forms of effects, (e.g., synergistic, additive, induced, spatial, or temporal) and identify impact pathways and trends.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	6.9, 6.10, 6.11 7.10 8.10 9.10 10.10 11.10 12.9 13.9 14.9 15.9 16.10 17.9 18.9 19.9 20.9 21.9 22.7 23.6 24.9 25.9			
		The EIS will include a narrative discussion of existing projects in the vicinity of the proposed project.	1 6 34	1.6 6.3.2 34.2.2, 34.2.3			
		The narrative will include the description of any existing studies of changes to the environment resulting from those projects that are similar to potential changes resulting from the project, including any mitigation measures that were implemented, and any long term monitoring or follow up program that were conducted.	34	34.4, 34.5			
		The effectiveness of those mitigation measures and key results of monitoring or follow-up programs will be described.	34	34.4, 34.5			
		This narrative discussion should include historical data, where available and applicable, to assist interested parties to understand the potential effects of the project and how they may be addressed.	N/A				
		The cumulative effects assessment may consider the results of any relevant study conducted by a committee established under section 73 or 74 of CEAA 2012.	N/A				
12.1.3	Summary of Residual Environmental Effects	In addition, the EIS will summarise the residual environmental effects (including cumulative environmental effects) identified in relation to the categories of environmental effects specified in sections 10.1.2 and 10.1.3:					
		• changes to components of the environment within federal jurisdiction;	33	33.1			
		• changes to the environment that would occur on federal or transboundary lands;	33	33.2			
		• changes to the environment that are directly linked or necessarily incidental to federal decisions;	33	33.3			
		• effects of changes to the environment on Aboriginal peoples; and	33	33.4.1			
		• effects of changes to the environment that are directly linked or necessarily incidental to federal decisions.	33	33.4.2			
12.2	Outstanding Environmental Issues	This section will describe, from the perspective of the proponent, the potential adverse impacts on potential or established Aboriginal and Treaty rights and related interests that have not been fully mitigated as part of the environmental assessment and associated consultations with Aboriginal groups.	26 27	N/A 27.9			No outstanding issues identified.
		This includes potential adverse impacts (on potential or established Aboriginal and Treaty rights and related interests) that may result from the residual and cumulative environmental effects described in section 10.2.	26 27	N/A 27.9			No outstanding issues identified.
		The information in this section will assist the Crown in assessing the adequacy of consultation and accommodation as set out in the *Updated Guidelines for Federal Officials to Fulfill the Duty to Consult (2011)*.	N/A				

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
12.3	Outstanding Public Concerns	This section will describe the outstanding public concerns in relation to the project that have not been resolved as a result of changes to the project, mitigation measures, or public consultation.	3	3.7.2, 3.7.2.1			
13	Significance Determination						
13.1	Significance of Adverse Environmental Effects						
13.1.1	Methodology	This section will provide a detailed analysis of the significance of the residual environmental effects (including cumulative environmental effects) that are considered adverse, using the approach described in the Agency's Reference Guide "Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects."	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 24 25	6.7, 6.8 7.8, 7.10 8.8. 8.10 9.8 10.8, 10.10 11.8, 11.10 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 24.7, 24.8 25.7, 25.8			
		The EIS will identify the criteria used to assign significance ratings to any predicted adverse effects.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 24 25	6.7, 6.8 7.8, 7.10 8.8. 8.10 9.8 10.8, 10.10 11.8, 11.10 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 24.7, 24.8 25.7, 25.8			

Environmental Impact Statement Guidelines			Application/Environmental Impact Statement				
Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
13.1.1 *(cont'd)*	Methodology *(cont'd)*	It will contain clear and sufficient information to enable the Agency, technical and regulatory agencies, Aboriginal groups and the public to review the proponent's analysis of the significance of effects.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 24 25	6.7, 6.8 7.8, 7.10 8.8. 8.10 9.8 10.8, 10.10 11.8, 11.10 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 24.7, 24.8 25.7, 25.8			
		The proponent will define the terms used to describe the level of significance.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 24 25	6.7, 6.8 7.8, 7.10 8.8. 8.10 9.8 10.8, 10.10 11.8, 11.10 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 24.7, 24.8 25.7, 25.8			
		The following elements should be used in determining the significance of residual effects:					
		• magnitude;	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 24 25	6.7, 6.8 7.8, 7.10 8.8. 8.10 9.8 10.8, 10.10 11.8, 11.10 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 24.7, 24.8 25.7, 25.8			

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
13.1.1 *(cont'd)*	Methodology *(cont'd)*	• geographic extent;	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 24 25	6.7, 6.8 7.8, 7.10 8.8. 8.10 9.8 10.8, 10.10 11.8, 11.10 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 24.7, 24.8 25.7, 25.8			
		• duration and frequency;	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 24 25	6.7, 6.8 7.8, 7.10 8.8. 8.10 9.8 10.8, 10.10 11.8, 11.10 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 24.7, 24.8 25.7, 25.8			
		• reversibility;	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 24 25	6.7, 6.8 7.8, 7.10 8.8. 8.10 9.8 10.8, 10.10 11.8, 11.10 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 24.7, 24.8 25.7, 25.8			

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
13.1.1 *(cont'd)*	Methodology *(cont'd)*	• ecological and social context;	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 24 25	6.7, 6.8 7.8, 7.10 8.8. 8.10 9.8 10.8, 10.10 11.8, 11.10 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 24.7, 24.8 25.7, 25.8			
		• existence of environmental standards, guidelines or objectives for assessing the impact.	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 24 25	6.7, 6.8 7.8, 7.10 8.8. 8.10 9.8 10.8, 10.10 11.8, 11.10 12.7, 12.8 13.7, 13.8 14.7, 14.8 15.7, 15.8 16.7, 16.8 17.7, 17.8 18.7, 18.8 19.7, 19.8 20.7, 20.8 21.7, 21.8 24.7, 24.8 25.7, 25.8			
		In assessing significance against these criteria the EIS will, where possible, employ relevant existing regulatory documents, environmental standards, guidelines, or objectives such as prescribed maximum levels of emissions or discharges of specific hazardous agents into the environment.	N/A				
		The EIS will contain a section which explains the assumptions, definitions and limits to the criteria mentioned above in order to maintain consistency between the effects on each VC.	6	6.4.1			
		Where significant adverse effects are identified, the EIS will set out the probability (likelihood) that they will occur, and describe the degree of scientific uncertainty related to the data and methods used within the framework of its environmental analysis.	35	35.2 Table 35.2-1			
13.1.2	Summary of Significant Adverse Environmental Effects	In addition, the EIS will summarise the significant adverse environmental effects identified in relation to the categories of environmental effects specified in sections 10.1.2 and 10.1.3:					
		• changes to components of the environment within federal jurisdiction;	33	33.1			
		• changes to the environment that would occur on federal or transboundary lands;	33	33.2			
		• changes to the environment that are directly linked or necessarily incidental to federal decisions;	33	33.3			
		• effects of changes to the environment on Aboriginal peoples; and	21 33	21.8 33.4.1			
		• effects of changes to the environment that are directly linked or necessarily incidental to federal decisions.	33	33.4.2			

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Section No.	Title	Description	Main Volume Chapter No.	Section	Environmental Management Plan	Appendix	Comments
14	Summary Tables	The EIS will contain a series of tables summarising the following key information:					
		• potential environmental effects (section 10.1), adverse impacts on potential or established Aboriginal and Treaty rights and related interests (section 10.2) and public concerns (section 10.3);	26 35	26.9 35.2, 35.3			
		• proposed mitigation measures and commitments (section 11.5) by proponent to address potential impacts on environment, (section 11.1), Aboriginal rights (section 11.2) and public concerns (section 11.3), and Follow-up Program (section 11.4);	26 35	26.9 35.2, 35.3		3-E, 3-J	
		• potential residual and cumulative environmental effects (section 12.1) and the significance of the residual environmental effects (section 13.1) ; outstanding Aboriginal issues (section 12.2) and outstanding public concerns (section 12.3);	35	35.2, 35.3			No outstanding Aboriginal issues identified.
		• comments from the public and responses;	35	35.2		3-J	
		• comments from Aboriginal groups and individuals and responses; and	3 35	 35.3		3-E	
		• relationship of the identified Valued Components (section 7.1.1) to Aboriginal groups' potential or established Aboriginal and Treaty rights and related interests (section 9.2).	26 27 35	26.6, 26.9 27.9.1 35.3			
		The summary tables will be used in the EA Report prepared by the Agency. Proponent commitments may be considered for inclusion as conditions in the EA decision statement and/or as part of other compliance and enforcement mechanisms.	N/A				
15	Benefits to Canadians		1	1.9			
15.1	Changes to the Project since Initially Proposed	The EIS will include a summary of the changes that have been made to the project since originally proposed, including the benefits of these changes to the environment, Aboriginal peoples, and the public.	4	4.6			
15.2	Benefits to the Project	The EIS will include a section describing the predicted environmental, economic and social benefits of the project. This information will be considered in assessing the justifiability of the significant adverse environmental effects, if necessary.	1	1.9			
16	Monitoring Program and Environmental Management Plans	In the EIS, the proponent will describe the monitoring activities at all stages of the project, the proponent's proposed commitment to implementing these activities and the resources provided for this purpose.	28 29 35	28.5 29.1 to 29.22 35.4	29.1 to 29.21		
		The program will need to provide the key information such as contacts, protocols, measured parameters, deadlines, intervention in case of non-compliance of legal requirements and production of monitoring reports.	28 29	28.5 29.22			
		The finalization of a detailed monitoring program will occur through consultation with federal and provincial government agencies, Aboriginal groups, the public and other stakeholders.	N/A				
		This may occur after the environmental assessment but will be consistent with the information presented in the EIS.	N/A				
		Pertinent legislation, regulations, industry standards, documents and legislative guides will be used in the development of the monitoring program.	N/A				
		Environmental Management Plans (EMPs) are an example of a tool that can be used to ensure that proper measures and controls are in place in order to decrease the potential for environmental degradation during all phases of project development, and to provide clearly defined action plans and emergency response procedures to account for human and environmental health and safety.	N/A				
		The EMPs will serve to provide guidance on specific actions and activities that will be implemented to decrease the potential for environmental degradation during construction and operation, and to clearly define the proponent's ongoing environmental commitment.	N/A				

N/A = Not applicable: indicates fields that do not require entry as directed by the Canadian Environmental Assessment Agency