Appendix 2a

CEAA Terms of Reference

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
1	**INTRODUCTION AND OVERVIEW**				
1.1	**The Proponent**				
	In the EIS, the proponent will:				
	-provide contact information (*e.g.*, name, address, phone, fax, email);	A.3.2	---	---	---
	– identify itself and the name of the legal entity that would develop, manage, and operate the Project;	A.1	---	---	---
	– describe corporate and management structures;	A.3.1	---	---	---
	– specify the mechanism used to ensure that corporate policies will be implemented and respected for the Project; and	C.7.1	---	---	---
	– identify key personnel, contractors, and sub-contractors responsible for preparing the EIS.	Appendix 3	---	---	---
1.2	**Project Overview**				
	The EIS will describe the Project, key project components and associated activities, scheduling details, the timing of each phase of the Project, and other key features. If the Project is a part of a larger sequence of projects, the EIS will outline the larger context. The overview is to identify the key components of the Project, rather than providing a detailed description, which will follow in section 3 of this document.	A.6 Table A.6.6-1 (Schedule) Figure A.1.0-2	**---**	SIR1 Q1.1a SIR1 Q1.1b SIR1 Q1.2 – Golf course not a Project component but considered an incidental activity. It was included in each discipline assessment.	---
1.3	**Project Location**				
	The EIS will contain a description of the geographical setting in which the Project will take place. 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. The following information will be included:	A.4	---	---	---
	– the UTM coordinates of the main project site;	A.4	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	– current land use in the area and land tenure;	E.10.2 Land use baseline conditions H.3.3.2, Figure H.3.1-1 Kanai Nation current land/resource use H.4.3.2, Figure H.4.1-1 Piikani Nation current land/resource use H.5.3.2, Figure H.5.1-1 Siksika Nation current land/resource use H.6.3.2, Figure H.6.1-1 Stoney Nakoda Nation current land/resource use H.7.3.2, Figure H.7.1-1 Tsuut'ina Nation current land/resource use H.8.3, Figure H.8.1-1 Ktunaxa Nation current land/resource use (no current use identified in Project assessment area) H.9.3; Figure H.9.1-1 Samson Cree Nation current land/resource use H.10.3, Figure H.10.1-1 Shuswap Indian Band current traditional land/resource use (no current use identified in Project assessment area) H.11.3 Foothills Ojibway First Nation current land/resource use (no current use identified in Project assessment area)	CR #10 Land and Resource Use, Section 4, Table 4.1-1 (Baseline land use conditions. Table provides land ownership details.)	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		H.12.3, H.12.4; Figure H.12.1-1, H.12.4-1 Métis Nation of Alberta Region 3 current land/resource use (no current use identified in Project assessment area) H.13.3, Figure H.13.1-1 Métis Nation of BC Region 4 current land/resource use (no current use identified in Project assessment area)			
	– distance of the project facilities and components to any federal lands;	A.4, Figure A.4.0-2	CR #10 Land and Resource Use, Section 4.9	---	---
	– the environmental significance and value of the geographical setting in which the Project will take place and the surrounding area;	E.10.2.2.5 - Environmentally significant areas	CR#9 Wildlife, Section 1.3 - Environmental setting overview CR #10 Land and Resource Use, Section 4.2.5, Figure 4.2-4 - Environmentally significant areas in LSA and RSA	---	---
	– environmentally sensitive areas, such as national, provincial and regional parks, ecological reserves, wetlands, and habitats of federally or provincially listed species at risk and other sensitive areas;	E.10.2.9 - National and provincial parks	CR #10 Land & Resource Use, Sections 4.2.3, 4.2.6, 4.9, 4.10, 4.11; Figures 4.2-3, 4.2-5, 4.9-1, 4.10-1, 4.11-1 - South Saskatchewan Regional Plan, Tourism & Recreation, Unique Sites & Special Features, Crown Reservations CR#9 Wildlife Section 1.3, Figures 1.3-1 and 2.2-2 - Wildlife environment overview; figures of Key Wildlife & Biodiversity Zones and Locations of Wildlife Management Units	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	– local and Aboriginal communities; and	E.11.2.1 - Local population H.3.1, H.4.1, H.5.1, H.6.1, H.7.1, H.8.1, H.9.1, H.10.1, H.11.1, H.12.1, H.13.1 - Aboriginal community information H.1 - List of Aboriginal groups potentially affected by Project	CR #11 Socio-economics, Section 3 - Socio-economic setting, including local community	---	---
	– traditional Aboriginal territories, treaty lands, and Indian reserve lands.	H.3.3.1, Figure H.3.1-1 Kanai Nation traditional use H.4.3.1, Figure H.4.1-1 Piikani Nation traditional use H.5.3.1, Figure H.5.1-1 Siksika Nation traditional use H.6.3.1, Figure H.6.1-1 Stoney Nakoda Nation traditional use H.7.3, Figure H.7.1-1 Tsuut'ina Nation traditional use H.8.3, Figure H.8.1-1 Ktunaxa Nation traditional use H.9.3; Figure H.9.1-1 Samson Cree Nation traditional use H.10.2,2, H.,10.3, Figure H.10.1-1 Shuswap Indian Band traditional use	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		(no use identified) H.11.3 Foothills Ojibway First Nation traditional use (no use identified) H.12.3; Figure H.12.1-1, H.12.4-1 Métis Nation of Alberta Region 3 traditional use assessment area) H.13.3, Figure H.13.1-1 Métis Nation of BC Region 4 traditional use (no use identified)			
1.4	**Regulatory Framework and the Role of the Government**				
	The EIS will identify:				
	- any federal power, duty or function that may be exercised that would permit the carrying out (in whole or in part) of the Project or associated activities;	A.5.2 Federal legislation	---	---	---
	– the environmental and other regulatory approvals and legislation that are applicable to the Project at the federal, provincial, regional, and municipal levels, including:	A.5.1, A.5.2, A.5.3 Provincial, federal, municipal and other approvals/ authorizations required	---	---	---
	✓ the project activity or component requiring regulatory approval;	A.5.1, A.5.2, A.5.3	---	---	---
	✓ the name of the permit or regulatory approval;	A.5.1, A.5.2, A.5.3	---	---	---
	✓ the applicable legislation in each case; and	A.5.1, A.5.2, A.5.3	---	---	---
	✓ the regulatory agencies responsible for each permit or approval;	A.5.1, A.5.2, A.5.3	---	---	---
	– government policies, resource management, planning, or study initiatives pertinent to the Project and/or EA, and their implications;	E.10.2.2 Land and Resource Use Planning E.10.2.11 Provincial and Federal Dispositions	CR #10 Land & Resource Use, Section 4.2 and 4.11 Coal development policy, resource planning, regional plan, and disposition reservations	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	– any treaty or self-government agreements with Aboriginal groups that are pertinent to the Project and/or EA;	H.3.1, H.4.1, H.5.1, H.6.1, H.7.1 Treaty 7 (Blood Tribe (Kanai Nation), Piikani Nation, Siksika Nation, Stoney Nakoda Nation, Tsuut'ina Nation) H.8.1 Ktunaxa Kinbasket Treaty H.9.1 Treaty 6 H.10.1, H.11.1 No treaties or agreements for Shuswap Indian Band or Foothills Ojibway FN H.12.1, H.13.1 No treaties or agreements for Metis Nations of Alberta and BC	---	---	---
	– any relevant land use plans, land zoning, or community plans; and	E.10.2.2 Land and resource use planning	CR #10 Land & Resource Use, Section 4.2 Land and resource use planning, zoning	---	---
	– 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.	D.2.5.3 Evaluation of significance	CR #1a Air Quality, Section 2.4 CR #2a Noise, Section 1 CR #3 Hydrogeology, Section 3.4 CR #5 Water Quality, Section 2.2.2 CR #6 Aquatic Resources, Section 3.1. Westslope cutthroat Recovery Plans	---	SIR1 Q 14 – site-specific selenium objective information is included in CR #5 Water Quality, Section 2.2.2, 4.1.1.2, Appendix A1

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
			CR #7 Soil & Terrain, Section 4.2, 5.5 CR #8 Vegetation & Wetlands, Section 2.3.10 CR #9 Wildlife, Table 1.4-1 CR #12 Human Health, Section 5.2, 5.3, 5.4		
2	**PROJECT JUSTIFICATION AND ALTERNATIVES CONSIDERED**				
2.1	**Purpose of the Project**				
	The EIS 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 broader private or public sector policies, plans, or programs, this information also will be included.	A.2	Discussion of Project need (purpose, benefits, economic consequences of delays)	---	---
	The EIS also will describe the predicted environmental, economic, and social benefits of the Project. This information will be considered in assessing the justifiability of any significant adverse residual environmental effects if such effects are identified.	A.2 Project Need – includes discussion of economic benefits of Project E.11.7 Summary of economic and fiscal benefits F.1.7 Gold Creek Stewardship Program (to address environmental issues arising from lack of remediation plans for historic mining in the area) F.2.1 Mitigation and reclamation of legacy	CR #11 Socio-economics, Sections 1.3, 4.2 to 4.5, 6.5, 7.4, 9.4	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		mining areas			
2.2	**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. The proponent will complete the following procedural steps for addressing alternative means:				
	– identify the alternative means to carry out the Project;	A.7 Discussion of alternative means for key aspects of mine planning execution	---	SIR1 Q 3 – additional alternative means information provided in A.7 SIR1 Q 18.1 – potential mitigations not proposed due to technical or economic limitations are provided in A.7	---
	– identify the effects of each technically and economically feasible alternative means;	A.7 Discussion of alternative means includes assessment of technical and economic feasibility and effects	---	SIR1 Q 3 – see comment above	---
	– select the approach for the analysis of alternative means (*i.e.*, identify a preferred means or bring forward alternative means); and	A.7.1 to A.7.11 Feasibility analysis methods are provided for each category of alternative means.	---	SIR1 Q 3 – see comment above	---
	– assess the environmental effects of the alternative means.	A.7.2.4, A.7.3.4, A.7.4.4, A.7.5.4, A.7.6.4, A.7.7.3, A.7.8.4, A.7.9.4, A.7.10.4 Environmental evaluation for each key aspect considered in the alternative means assessment	---	SIR1 Q 3 – see comment above	---
	In its alternative means analysis, the proponent will address, key project components such as:				
	– transportation of coal through to existing rail lines (means and routing considered);	A.7.4	---	SIR1 Q 3 – see comment above	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	– access to the project site, including highway access points and watercourse crossings;	A.7.2	---	SIR1 Q 3 – see comment above	---
	– energy sources to power the project site;	A.7.9	---	SIR1 Q 3 – see comment above	---
	– water supply;	A.7.10	---	SIR1 Q 3 – see comment above	---
	– mine waste disposal (methods and sites considered); and	A.7.2; A.7.5 Mine configuration – rock disposal areas; Coal processing fines management	---	SIR1 Q 3 – see comment above	---
	– water management	A.7.6 Water and selenium managemen	---	SIR1 Q 3 – see comment above	---
3.0	**PROJECT DESCRIPTION**				
3.1	**Project Components**				
	The EIS will describe the Project, by presenting the project components, associated and ancillary works, and other characteristics that will assist in understanding the environmental effects. This will include:				
	– maps, at an appropriate scale, of the project location, the project components, boundaries of the proposed site with UTM coordinates, the major existing infrastructure, adjacent land uses, and any important environmental features;	Figure A.1.0-2 Project footprint, showing location, components, boundaries, existing infrastructure, UTMs	CR #10 Land Use, Figures 4.2-2, 4.3-1, 4.4-2, 4.5-1, 4.6-1, 4.7-1, 4.8-1, 4.9-1, 4.11-1 Adjacent land use figures CR #10, Figures 4.2-3, 4.2-4, 4.2-5 Important environmental features	SIR1 Q 1a – additional information on Project components is provided	---
	– waste rock, overburden, topsoil, tailings, coal storage, and stock piles (footprint, locations, volumes, UTM coordinates, height from ground of each component, development plans, and design criteria);	C.1.1, C.1.2 Mine planning criteria and design C.1.3, Table C.1.3-1, Figures C.1.3-1 to 1.3-24 Annual progression of mine on topographic map layer	---	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
		Appendix 9a, Section 4.1 Design criteria in Waste Dump and Infrastructure Geotechnical Report			
	− open pit mines (footprint, location, development plans including pit phases);	C.1.2.4, C.1.3; Figures C.1.3-1 to 1.3-24 Pit design and development plan; figures shows mine location, footprint, and phases.	---	---	---
	− coal handling and processing plants (footprint, technology, location);	C.2.4, C.2.8; Figure C.2.4-1 Description of processing plant location and operations /technology; Figure shows CHPP footprint	---	---	---
	− water management infrastructure (pit water, mine effluent, water diversions, groundwater wells, reservoir, storage tanks);	C.5.3, C.5.5, C.6.12 Water management/ treatment; potable water	---	---	---
	− permanent and temporary linear infrastructures (highway access intersections, access roads, rail load out facilities, pipelines, conveyor, power supplies), identifying the route of each of these linear infrastructures, the location (including UTM coordinates) and types of structure used for stream crossings;	Figure A.1.0-3 Figure provide routes/locations of all linear infrastructures C.1.6, Figure C.1.6-1 Haul road design C.2.7, Figure C.2.7-1 Overland conveyor and loadout facility; Train loadout flowsheet C.3, Figure C.3.1-1 Proposed rail layout C.4, Figure C.4.1-1 , C.4.1-2 Access roads	---	---	---
	− drinking and industrial water requirements (source, quantity required, need for water treatment);	C.5.1 – requirements and source C.5.3 – water treatement	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	– explosives manufacturing and storage facilities (bulk explosives and explosives storage);	C.1.5.2	---	---	---
	– energy supply (source, quantity); and	C.6.15, C.6.15.2	---	---	---
	– waste disposal (type of waste, method of disposal, quantity).	C.7.8	--	---	---
3.2	Project Activites				
	The EIS will include descriptions of the construction, operation, decommissioning, and abandonment associated with the proposed project. This will include 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. Although a complete list of project activities should be provided, the emphasis will be on activities with the greatest potential to have environmental effects. 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.				
	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. The EIS will include a schedule including time of year, frequency, and duration for all project activities. The information will include a description of:				
3.2.1	Site Preparation and Construction				
	– site clearing, excavation;	C.1.3.2, C.1.3.3, C.1.5.1 Figures C.1.3-1 to C.1.3-26 Summary of mine development. Figures are annual status for life of mine showing advance of disturbance.	---	---	---
	– blasting (frequency and methods, type of explosive used);	C.1.5.2	---	---	---
	– water diversion required (location, methods, timing);	C.5.3 , C.5.4, C.5.5 Figures C.5.3-1 to C.5.3-4, Table C.5.4-1 Description of water management features. Figures show locations and Table summarizes water management plan	---	---	SIR1 Q 41a – information provided on physical characteristics of surge ponds (C.5.5) and saturated zones (C.5.3.4.2, Figure C.5.3-5, C.5.3-6)
	– equipment requirements (type, quantity);	C.1.4, Table C.1.4-1	---	---	---
	– administrative buildings, garages, construction camp, other ancillary facilities;	C.6	---	---	---
	– number of employees and transportation of employees; and	C.1.6; Table C.1.6-1 Workforce requirements during life of	CR #11 Socio-economics, Sections 4.5, 10.4 Number of employees,	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
		mine	transportation of employees		
	– construction of coal processing plants.	A.6.6	---	---	---
3.2.2	Operation				
	- mining plan, coal production, coal stockpiling;	C.1.3, C.2.4, C.2.6.1, C.2.6.6 Mine schedule; coal production; ROM stockpiles, stacking	---	---	---
	– equipment requirements;	C.1.4, Table C.1.4-1, C.1.4-2; Figure C.1.5-1	---	---	---
	– explosive uses (manufacturing, storage location, and management);	C.1.5.2	---	---	---
	– blasting (frequency and methods);	C.1.5.2	---	---	---
	– water management on the project site, including a detailed water budget;	C.5, Figures C.2.5-1, C.5.4-1	---	---	---
	– coal treatment;	C.2.4	Wash plant and operations	---	---
	– petroleum products (source, volume, storage);	C.6.6	Fuel and lube storage	---	---
	– characterisation and management of coal, waste rock, tailings, overburden, and reject material (volumes generated, mineralogical characterisation, potential for metal leaching and acid rock drainage);	C.1.3 Mine development plan with volumes generated C.1.1.1 Description of mining, including volumes of mineable reserves and overburden rock C.1.2.5, Table C.1.2.2 Scheduled tonnage by phase C.8.1.3, C.8.2.3 Results of geochemistry analysis on coal handling and processing plant residues	CR #7 Soils & Terrain, Section 5.0, Table 5.5-1 (refers to Geochemical Characterization Progress Report, which is Appendix 9d of Application) Discussion of overburden assessment, including salinity, pH, calcium carbonate, physical characteristics, acid rock drainage, trace elements.		SIR1 Q 28 – additional information on waste rock blending is provided in Appendix 10A Section 5.4.3 SIR1 Q 29 – updated information provided in Appendix 10A

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
		C.8.3.1 Selenium management C.8.3.2 Acid rock drainage management Appendix 10A. Section 5.4. Section 6 Geochemical Characterization Progress Report			
	– effluent management and treatment (quantity, treatment requirement, release point);	C.5.3 Water treatment C.5.4 Water balance and management C.5.2.2 Non-consumptive water use, including reject	---	---	SIR1 Q 19 – information on selenium management is included in C.8.2, CR #5 Water Quality Section 5 SIR1 Q 20 – Water management plan information provided in Section C.5
	- contribution to atmospheric emissions, including emissions profile (type, rate, and source)	E.1.3.1, Table E.1.5-1	CR #1a Air Quality, Section 4 Table 4.2-1, 4.3-1, 4.6-1 to 4.6-4	---	---
	– waste management and recycling (other than mine waste such as tailings and waste rock);	C.7.8	---	---	---
	– transportation activities; and	C.3.2 Rail loading during operations C.4 and Appendix 8 Roads and traffic impact assessment	---	---	---
	– number of employees, transportation of employees, work schedule, lodging requirement on site and off site.	C.1.6 Number of employees	CR #11 Socio-economics, Sections 4.5.8, 6.3.2, 10.4	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		E.11.3.3, E.11.3.4 Number of employees, housing requirements	Number employees, housing requirements, transportation of employees		
3.2.3	**Decommissioning and Abandonment**				
	– the preliminary outline of a decommissioning and reclamation plan for any components associated with the Project;	F.2.2 Reclamation Schedule F.3 C&R Plan	---	---	---
	– the ownership, transfer, and control of the different project components; and	F.2.2 F.4.5 Closure landscape	---	---	---
	– the responsibility for monitoring and maintaining the integrity of the remaining structures.	F.1.5 F.4.4 F.3.9.3	---	---	---
4	**PUBLIC CONSULTATION AND CONCERNS**				
	The EIS will describe the ongoing and proposed consultations and the information sessions that the proponent will hold or that it has already held on the Project. It will 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. The EIS will indicate the methods used, where the consultation was held, the persons and organizations consulted, the concerns voiced, and the extent to which this information was incorporated in the design of the Project as well as in the EIS. The EIS will provide a summary of key issues raised related to the environmental assessment as well as describe any outstanding issues and ways to address them.	Section G Public engagement report, including scope, methods, and received comments Table G.4.0-1 Summary of key issues raised by stakeholders	---	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
5	**ABORIGINAL ENGAGEMENT AND CONCERNS**				
	For the purposes of developing the EIS, the proponent will engage with Aboriginal groups that may be affected by the Project, to obtain their views on:				
	– effects of changes to the environment on Aboriginal peoples (health and socio-economic issues; physical and cultural heritage, including any structure, site, or thing that is of historical, archaeological, paleontological, or architectural significance; and current use of lands and resources for traditional purposes); and	H.3.4; Tables H.3.4-1 to H.3.4-4 Kainai Nation H.4.4; Tables H.4.4-1 to H.4.4-5 Piikani Nation H.5.4; Tables H.5.4-1 to H.5.4-4 Siksika Nation H.6.4, Table H.6.4-1, H.6.4-2 Stoney Nakoda Nation H.7.4, Tables H.7.4-1 to H.7.4-4 Tsuut'ina Nation H.8.4 Ktunaxa Nation H.9.4, Tables H.9.4-1 to H.9.4-4 Samson Cree Nation H.10.4 Shuswap Indian Band H.11.4 Foothills Ojibway First Nation H.12.4, H.12.4-1 to H.12.4-3 Metis Nation of Alberta Region 3	CR #12 Human Health, Section 2.2 and 5.1.3 Human Health Assessment focus based on public and Aboriginal consultation; identification of receptors CR#11 Socio-economics, Section 9.3, Table 9.1 Effects on the local Aboriginal population	SIR1 Q 4.0– non-Treaty 7 groups have been included SIR1 Q 4.1 to 4.7 – information from responses has been incorporated into Section H, its Appendices, and ongoing consultation	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		H.13.4 Metis Nation of BC Region 4 E.10.3 Summary of potential impacts on land & resource use (including resource development, hunting & trapping, access, unique sites E.13.3 Potential impacts on historical resources			
	- potential adverse impacts of the Project on potential or established Aboriginal or Treaty rights.	H.3.5, H.3.6.3; Table H.3.5-1 Kainai Nation H.4.5, H.4.6.3; Table H.4.5-1 Piikani Nation H.5.5, H.5.6.3; Table H.5.5-1 Siksika Nation H.6.5, H.6.6.3; Table H.6.5-1 Stoney Nakoda Nation H.7.5, H.7.6.3; Table H.7.5-1 Tsuut'ina Nation H.8.4 Ktunaxa Nation H.9.5; H.9.6.1 Samson Cree Nation	CR#8 Vegetation Section 4.4.1, Table 4.4-1; Section 4.6.1, Table 4.6-1 Potential effects Forestry Resources; on TEK Plant Potential CR#9 Wildlife, Section 5.6, Table 5.3-26, Table 6.4-1 Traditional resource use, wildlife residual and cumulative effects CR#10 Land & Resource Use, Section 5.4, 5.5, 5.6, 5.8 Potential effects on resource development, hunting & trapping, access, and uniques sites CR#11 Socio-economics, Section 9.3, Table 9.1 Potential effects on traditional land use and Aboriginal culture	SIR1 Q 4.4 –response has been incorporated into Section H	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		H.10.4 Shuswap Indian Band H.11.4 Foothills Ojibway First Nation H.12.5, H.12.6.3; Table H.12.5-1 Metis Nation of Alberta Region 3 H.13.4 Metis Nation of BC Region 4 E.8.3.4, E.8.3.6 Potential effects on forestry resources and traditional use vegetation E.9.3 Potential impacts on wildlife VCs (including traditional use species) E.10.3 Potential impacts land & resource use (iincluding resource development, hunting, trapping, access, and unique sites) E.11.3.8 Potential impacts of socio-economic conditions related to traditional use			
	With respect to the above matters and in addition to information requirements outlined in Part 2, sections 6.1.8 and 6.3.6 of these guidelines, the EIS will document:				

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	- VCs suggested by Aboriginal groups for inclusion in the EIS, whether they were included, and the rationale for any exclusions;	H.2.2, Table H.2.2-1 Aboriginal Valued Components	CR#6 Fisheries Section 3.1.1, Table 3.2 Traditional use fish species in LSA and RSA CR#8 Vegetation Section 3.6 Table 3.6-1 Traditional use vegetation species identified as VCs by Treaty 7 First Nations CR#9 Wildlife Table 2.2-1, Section 3.2.3 Wildlife identified as VCs by Treaty 7 First Nations, rationale for VC selection/exclusion CR#10 Land & Resource Use Table 3,2-1 VCs, including hunting, trapping, access, forestry, and unique sites CR#11 Socio-economics Section 9.3 Table 9.1 Aboriginal socio-economic VCs	SIR1 Q 4.1and 5 – additional information on VC selection has been provided	---
	- 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 or available through public records;	H.3.3, H.4.3, H.5.3, H.6.3, H.7.3, H.8.1, H.9.1, H.10.1, H.11.1, H.12.1, H.13.1 Figures H.3.3-1 to H.13.4-1 Aboriginal background information and figures of traditional lands Appendix 7c TK/TU Studies	---	CEAA Non-technical (conformity) SIR 4.2 response	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	- based on the proponent's perspective, the potential adverse impacts of each of the project components and physical activities, in all phases, on potential or established Aboriginal or Treaty rights. This assessment is to 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. Include the perspectives of Aboriginal groups where these were provided to the proponent by the groups;	H.3.4, H.4.4, H.5.4, H.6.4, H.7.4, H.8.4, H.9.4, H.10.4, H.11.4, H.12.4, H.13.4 and tables therein (potential impacts) H.3.8, H.4.8, H.5.8, H.6.8, H.7.8, H.8.5, H.9.8, 12.8 and tables therein (feedback)	---	---	---
	- based on the proponent's perspective, the measures identified to mitigate or accommodate potential adverse impacts of the Project on the potential or established Aboriginal or Treaty rights. These measures will be written as specific commitments that clearly describe how the proponent intends to implement them;	H.3.4, H.4.4, H.5.4, H.6.4, H.7.4, H.8.4, H.9.4, H.10.4, H.11.4, H.12.4, H.13.4, and tables therein These sections provide potential effects and mitigation measures for current use of lands/resources for traditional use, and aboriginal health, socio-economics, and physical/cultural heritage Appendix 2A Mitigations and commitments	CR#8 Vegetation Section 4.6.4 Mitigation and monitoring for traditional use vegetation CR#9 Wildlife Section 7.1 Wildlife mitigation measures (which include traditional use species) CR#10 Land & Resource Use Section 6 Mitigations for effects, including those on traditional use CR#11 Socio-economics Section 9.4 Mitigations specific to traditional land use and culture	SIR1 Q 4.5 - Appendix 2A provides Benga's mitigations and commitments	---
	- based on the proponent's perspective, the effects of changes to the environment on Aboriginal peoples or potential adverse impacts on potential or established Aboriginal or Treaty rights that have not been fully mitigated or accommodated as part of the environmental assessment, including the residual and cumulative effects. The EIS will include the perspectives of Aboriginal groups where these were provided to the proponent by the groups;	H.3.5, H.4.5, H.5.5, H.6.5, H.7.5, H.9.5, H.12.5 Characterization of residual effects for Kanai Nation, Piikani Nation, Siksika Nation, Stoney Nakoda Nation, Tsuut'ina Nation, Samson Cree Nation, Metis Nation of Alberta (no anticipated effects for other groups) H.3.6, H.4.6, H.5.6, H.6.6, H.7.6, H.9.6,	CR#8 Vegetation Section 4.6.5, Table 5.1-1 Impact rating for traditional use species CR#9 Wildlife Section 5.3.11, Table 5.3-26, Section 5.4.9, Table 5.4-1, Section 5.5; Section 6.4, Table 6.4-1 Residual effects for wildlife, including some traditional use	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		H.12.6 Cumulative effects assessment for Kanai Nation, Piikani Nation, Siksika Nation, Stoney Nakoda Nation, Tsuut'ina Nation, Samson Cree Nation, Metis Nation of Alberta (no anticipated effects for other groups) H.3.4, H.4.4, H.5.4, H.6.4, H.7.4, H.8.4, H.9.4, H.10.4, H.11.4, H.12.4, H.13.4, and tables therein Recommended mitigation measures provided by First Nations	species; Cumulative effects CR#10 Land & Resource Use Sections 5.2 to 5.8; Section 8.0, Table 8.0-1 Potential effects on VCs including resource development, hunting & trapping, access, and uniques sites; Cumulative effects CR#11 Socio-economics Section 9.5, Section 12 Table 12.1 Effects on Aboriginal communities		
	- specific suggestions raised by Aboriginal groups for mitigating the effects of changes to the environment on Aboriginal peoples or accommodating potential adverse impacts of the Project on potential or established Aboriginal and Treaty rights;	H.3.4, H.4.4, H.5.4, H.6.4, H.7.4, H.8.4, H.9.4, H.10.4, H.11.4, H.12.4, H.13.4, and tables therein Potential effects and mitigation measures	---	---	---
	- views expressed by Aboriginal groups on the effectiveness of the mitigation or accommodation measures;	H.2.4, H.2.7, H.3.7, H.4.7, H.5.7, H.6.7, H.7.7, H.9.7, H.12.7 (no group has yet provided feedback on effectiveness but these groups indicate monitoring will verify effectiveness))	**---**	SIR1 Q 4.6 – response incorporated into the listed subsections of H	---
	- from the proponent's perspective, any potential cultural, social, and economic impacts or benefits to Aboriginal groups that may arise as a result of the Project. The EIS will include the perspectives of Aboriginal groups where these were provided to the proponent by the groups;	H.3.2.3, H.4.2.3, H.5.2.3, H.6.2.3, H.7.2.3, Economic opportunities – Kanai Nation, Piikani Nation, Siksika Nation, Stoney Nakoda Nation, Tsuut'ina Nation H.3.4.3, H.4.4.3, H.5.4.3, H.6.4.3, H.7.4.3, H.9.4.3. H.12.4.3	CR#11 Socio-economics Section 9.3 Effects assessment for traditional land use and Aboriginal culture	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		Potential effects to Aboriginal socio-economic conditions - Kanai Nation, Piikani Nation, Siksika Nation, Stoney Nakoda Nation, Tsuut'ina Nation, Samson Cree Nation, Metis Nation of Alberta H.3.4.4, H.4.4.4, H.5.4.4, H.6.4.4, H.7.4.4, H.9.4.4, H.12.4.4 Potential effects to Aboriginal physical cultural heritage –Kanai Nation, Piikani Nation, Siksika Nation, Stoney Nakoda Nation, Tsuut'ina Nation, Samson Cree Nation, Metis Nation of Alberta			
	- comments, specific issues, and concerns raised by Aboriginal groups and how the key concerns were responded to or addressed;	H.3.4, H.3.8 Tables H.3.4-2 to H.3.4-4, H.3.8-1 Kanai Nation H.4.4, H.4.8 Tables H.4.4-2 to H.4.5-6, H.4.8-1 Piikani Nation H.5.4, H.5.8 Tables H.5.4-2 to H.5.4-4, H.5.8-1 Siksika Nation H.6.4, H.6.8 Table H.6.4-2, H.6.8-1 Stoney Nakoda Nation H.7.4, H.7.8	CR #9 Wildlife Section 5.6	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		Tables H.7.4-2 to H.7.4-4, H.7.8-1 Tsuut'ina Nation H.8.5 Table H.8.5-1 Ktunaxa Nation H.9.4, H.9.8 Tables H.9.4-2 to H.9.4-4, H.9.8-1 Samson Cree Nation			
	- changes made to the project design and implementation directly as a result of discussions with Aboriginal groups;	H.1.1,H.1.1.1, H.1.1.2, H.1.1.4 Aboriginal consultation and TEK Mitigation/ implementation measures arising from consultation with: Kanai Nation H.3.8, Table H.3.8-1 Piikani Nation H.4.8, Table H.4.8-1 Siksika Nation H.5.8, Table H.5.8-1 Stoney Nakoda Nation H.6.8, Table H.6.8-1 Tsuut'ina Nation H.7.8, Table H.7.8-1	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		Ktunaxa Nation H.8.5, Table H.8.5-1 Samson Cree Nation H.9.8, Table H.9.8-1 Metis Nation of Alberta Section H.12.8, Table H.12.8-1			
	- where and how Aboriginal traditional knowledge was incorporated into the environmental effects assessment (including baseline conditions and effects analysis for VCs) and the consideration of potential adverse impacts on potential or established Aboriginal or Treaty rights and related mitigation measures; and	H.1.1.4.3 H.2.2, H.3.4, H.4.4, H.5.4, H.6.4, H.7.4, H.8.4, H.9.4, H.10.4, H.11.4, H.12.4, H.13.4 and tables therein Potential effects and mitigation measures for consulted Aboriginal groups Tables H.3.8-1, H.4.8-1, H.3.8-1, H.6.8-1, H.7.8-1, H.8.5-1, H.9.8-1, H.12.8-1 Feedback from and responses to consulted Aboriginal groups H.3.5, H.4.5, H.5.5, H.6.5, H.7.5, H.9.5, H.12.5 Characterization of residual effects for consulted Aboriginal groups H.3.6, H.4.6, H.5.6, H.6.6, H.7.6, H.9.6. H.12.6 Cumulative effects assessment for for	CR #1a Air Quality, Section 2.5.3.2 CR #5 Surface Water Quality, Section 3.2.2, 3.2.5 CR #6 Aquatic Resources, Section 2.1, Section 3.1.1, Table 3.2 CR #8 Vegetation, Section 3.6, 4.6, Table 3.6-1 CR #9 Wildlife, Table 2.2-1, Section 3.2.3, 5.6, 7.1, 7.2 CR #11 Socio-economic, Section 9 CR #12 Human Health, Sections 2.2, 5.1.3.1	SIR Q4.7 – information provided, plus see response to Q4.7	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		consulted Aboriginal groups			
	- any additional issues and concerns raised by Aboriginal groups in relation to the environmental effects assessment and the potential adverse impacts of the Project on potential or established Aboriginal and Treaty rights.	none	---	---	---
5.1	Aboriginal Groups to Engage & Engagement Activities				
	With respect to engagement activities, the EIS will document:				
	- the engagement activities undertaken with Aboriginal groups prior to the submission of the EIS, including the date and means of engagement (e.g., meeting, mail, telephone);	Consultation summaries and chronologies of key consultation activities for: Kainai Nation H.3.2.1, Table H.3.2-1 H.4.2.1, Table H.4.2-1 Piikani Nation H.5.2.1, Table H.5.2-1 Siksika Nation H.6.2.1, Table H.6.2-1 Stoney Nakoda Nation H.7.2.1, Table H.7.2-1 Tsuut'ina Nation H.8.2.1, Table H.8.2-1 Ktunaxa Nation	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		H.9.2.1, Table H.9.2-1 Samson Cree Nation H.10.2.1, Table H.10.2-1 Shuswap Indian Band H.11.2.1, Table H.11.2-1 Foothills Ojibway First Nation H.12.2.1, Table H.12.2-1 Metis Nation of Alberta Region 3 H.13.2.1, Table H.13.2-1 Metis Nation of BC Region 4 Appendix 7b Records of Communication			

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	- any future planned engagement activities; and	Follow-up & monitoring and ongoing consultation with: Kanai Nation H.3.7, Table H.3.8-1 Piikani Nation H.4.7, Table H.4.8-1 Siksika Nation H.5.7, Table H.5.8-1 Stoney Nakoda Nation H.6.7 Tsuut'ina Nation H.7.7, Table H.7.8-1 Samson Cree Nation H.9.7, Table H.9.8-1 Metis Nation of Alberta H.12.7	---	---	---
	- how engagement activities by the proponent allowed Aboriginal groups to understand the Project and evaluate its effects on their communities, activities, potential or established Aboriginal or Treaty rights, and other interests.	H.1.1 Description of Aboriginal consultation activities H.1.1.1 Consultation with Treaty 7 First Nations H.1.1.2	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		Consultation with other Aboriginal groups H.1.1.4 TEK/TLU opportunities for Treaty 7 First Nations Consultation summaries: H.3.2.1, Table H.3.2-1 Kainai Nation H.4.2.1, Table H.4.2-1 Piikani Nation H.5.2.1, Table H.5.2-1 Siksika Nation H.6.2.1, Table H.6.2-1 Stoney Nakoda Nation H.7.2.1, Table H.7.2-1 Tsuut'ina Nation H.8.2.1, Table H.8.2-1 Ktunaxa Nation H.9.2.1, Table H.9.2-1 Samson Cree Nation H.10.2.1, Table H.10.2-1 Shuswap Indian Band			

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
		H.11.2.1, Table H.11.2-1 Foothills Ojibway First Nation H.12.2.1, Table H.12.2-1 Metis Nation of Alberta Region 3 H.13.2.1, Table H.13.2-1 Metis Nation of BC Region 4			
	In preparing the EIS, the proponent will ensure that Aboriginal groups have access to timely and relevant information on the Project and how the Project may adversely impact them. The proponent will structure its Aboriginal engagement activities to provide adequate time for Aboriginal groups to review and comment on the relevant information (see section 5.0). Engagement activities are to be appropriate to the groups' needs and should be arranged through discussions with the groups, as appropriate. The EIS will describe all efforts, successful or not, taken to solicit the information required from Aboriginal groups to support the preparation of the EIS.	Appendix 7a First Nations Consultation Plan Appendix 7b Aboriginal Consultation Records H.1.1.1 Consultation with Treaty 7 First Nations H.1.1.2 Consultation with Other Aboriginal Groups Consultation summaries: H.3.2.1, Table H.3.2-1 Kainai Nation H.4.2.1, Table H.4.2-1 Piikani Nation	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		H.5.2.1, Table H.5.2-1 Siksika Nation H.6.2.1, Table H.6.2-1 Stoney Nakoda Nation H.7.2.1, Table H.7.2-1 Tsuut'ina Nation H.8.2.1, Table H.8.2-1 Ktunaxa Nation H.9.2.1, Table H.9.2-1 Samson Cree Nation H.10.2.1, Table H.10.2-1 Shuswap Indian Band H.11.2.1, Table H.11.2-1 Foothills Ojibway First Nation H.12.2.1, Table H.12.2-1 Metis Nation of Alberta Region 3 H.13.2.1, Table H.13.2-1 Metis Nation of BC Region 4			
	The proponent will ensure that views of Aboriginal groups are recorded. The proponent will keep detailed tracking records of its engagement activities, recording all interactions with Aboriginal groups, the issues raised by each Aboriginal group and how the proponent addressed the concerns raised. The proponent will share these records with the Agency.	Aboriginal issues and concerns for: Kainai Nation H.3.8, Table H.3.8-1	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		Piikani Nation H.4.8, Table H.4.8-1 Siksika Nation H.5.8, Table H.5.8-1 Stoney Nakoda Nation H.6.8, Table H.6.8-1 Tsuut'ina Nation H.7.8, Table H.7.8-1 Ktunaxa Nation H.8.5, Table H.8.5-1 Samson Cree Nation H.9.8, Table H.9.8-1 Metis Nation of Alnerta H.12.8, Table H.12.8-1 H.3.2.1, H.4.2.1, H.5.2.1, H.6.2.1, H.7.2.1, H.8.2.1, H.9.2.1, H.10.2.1, H.11.2.1, H.12.2.1, H.13.2.1 Consultation summaries and chronologies of key consulation activities Appendix 7b – Aboriginal Consultation Records			
	The proponent will hold meetings with the following potentially affected Aboriginal groups and facilitate these meetings by making key EA summary documents (baseline studies, EIS (draft/final), key findings, plain language				

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	summaries) accessible:				
	- Blood Tribe (Kainai Nation);	Appendix 7a Table 4.1 Table H.3.2.1 Chronology of key consultation activities	---	---	---
	- Piikani Nation	Appendix 7a Table 4.1 Table H.4.2.1 Chronology of key consultation activities	---	---	---
	- Siksika Nation;	Appendix 7a Table 4.1 Table H.5.2.1 Chronology of key consultation activities	---	---	---
	- Stoney Nakoda Nation (Bearspaw Nation, Chiniki Nation and Wesley Nation); and	Appendix 7a Table 4.1 Table H.6.2.1 Chronology of key consultation activities	---	---	---
	- Tsuu T'ina Nation.	Appendix 7a Table 4.1 Table H.7.2.1 Chronology of key consultation activities	---	---	---
	For the above groups, the proponent will ensure there are sufficient opportunities for individuals and groups to provide oral input in the language of their choice. The proponent will ensure that these Aboriginal groups' views are heard and recorded.	H.1.1 Aboriginal consultation Tables H.3.2.1, H.4.2.1, H.5.2.1, H.6.2.1,	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		H.7.2.1, H.8.2.1 Chronologies of key consultation activities Appendix 7b Records of Communication			
	There are additional Aboriginal groups that are expected to be less affected by the Project and its related effects. The proponent will make key EA summary documents (EIS, key findings, plain language summaries) accessible to these Aboriginal groups and ensure their views are heard and recorded. These Aboriginal groups include:				
	– Samson Cree Nation;	Appendix 7a Table 4.1 Table H.9.2.1 Chronology of key consultation activities	---	---	---
	– Foothills Ojibway First Nation;	Appendix 7a Table 4.1 Table H.11.2.1 Chronology of key consultation activities	---	---	---
	– Métis Nation of Alberta – Region 3;	Appendix 7a Table 4.1 Table H.12.2.1 Chronology of key consultation activities	---	---	---
	– Métis Nation British Columbia - Region 4;	Appendix 7a Table 4.1 Table H.13.2.1 Chronology of key consultation activities	---	---	---
	– St. Mary's Indian Band;	Appendix 7a Table 4.1	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		Table H.10.2.1 Chronology of key consultation activities			
	– Lower Kootenay Indian Band;	Appendix 7a Table 4.1 Table H.8.2.1 Chronology of key consultation activities	---	---	---
	– Tobacco Plains Indian Band; and	Appendix 7a Table 4.1 Table H.8.2.1 Chronology of key consultation activities	---	---	---
	– Akisq'nuk First Nation.	Appendix 7a Table 4.1 Table H.8.2.1 Chronology of key consultation activities	---	---	---
	- Shuswap Indian Band	Appendix 7a Table 4.1 Table H.10.2.1 Chronology of key consultation activities	---	---	---
6	**EFFECTS ASSESSMENT**				
6.1	**Project Setting and Baseline Conditions**				
	Based on the scope of Project described in section 3 (Part 1), the EIS will present baseline information in sufficient detail to enable the identification of how the Project could affect the VCs and an analysis of those effects. Should other VCs be identified during the conduct of the EA, the baseline condition for these components will also be described in the EIS. To determine the appropriate spatial boundaries to describe the baseline information, refer to section 3.3.3 (Part 1). As a minimum, the EIS will include a description of:				
6.1.1	**Atmospheric Environment**				
	- ambient air quality in the project areas and, for the mine site, the results of a baseline survey of ambient air quality, including the following contaminants:	E.1.2.2 Ambient measurements were taken	CR #1a Air Quality,	SIR1 Q 6.1 – further station information has	SIR1 Q12 – information on dust suppression percentage used in

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	total suspended particulates, fine particulates (PM2.5), particulate matters up to 10 micrometres in size (PM10), sulfur oxide (SOx), volatile organic compounds (VOCs), and nitrogen oxide (NOx);	from representative regional stations, not on-site stations	Section 3.1 Appendix C Section 5, Table C5-1 Summary of background air quality results that were used for dispersion modeling	been provided	other projects and water volume for haul roads A.4.7 and C.5.1.1.
	- current ambient noise levels at key receptor points (e.g., Aboriginal communities), including the results of a baseline ambient noise survey. Information on typical sound sources, geographic extent, and temporal variations will be included;	E.2a.2 E.2b.2	CR#2a Noise, Section 2.1, Figure 1 Baseline noise sources, residential receptors CR #2b Noise (Loadout), Section 3.1 Baseline noise	---	---
	- existing ambient night-time light levels at the project site and at any other areas where project activities could have an effect on light levels. The EIS will describe night-time illumination levels during different weather conditions and seasons;	---	CR #1a Air Quality, Section 5.16.2, Figures 5.16-1 to 5.16-3 Figures show viewsheds for illumination at key project components.	---	---
	- historical records of monthly and total precipitation (rain and snow) and temperatures, including means, maximums, and minimums.	---	CR #1a Air Quality, Appendix C Section 4 CR #4 Hydrology Tables 1, 2 3 Regional temperature and precipitation data	---	---
6.1.2	**Geology and Geochemistry**				
	- the bedrock and host rock geology of the deposit, including a table of geologic descriptions, geological maps, and cross-sections of appropriate scale;	Section B Figures B.1.0-1 to B.2.0-7, Table B.6.1-1 Maps of regional geology, stratigraphy, formation thickness, cross- sections; Table of coal resources	---	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	- geomorphology, topography, and geotechnical characteristics of areas proposed for construction of major project components;	B.1 & B.1.1 App 9a – Sections 3.0 and 5.0 App. 9b – Sections 3, 4, 5, 6, 7 Site description, surficial rock general ground condition description, description of area proposed for major infrastructure	---	---	---
	- the geochemical characterisation of expected mine material such as waste rock, tailings, coal, reject material, overburden, and potential construction material in order to predict metal leaching and acid rock drainage;	C.8.1 & C.8.2 Description of sampling program and results App 9c – Section 2 & Fig 2, Section 4 App. 9d – Sections 2.1, 3.1, 5.1	---	---	---
	- geological hazards that exist in the areas planned for the project facilities and infrastructure, including:				
	✓ history of seismic activity in the area;	B.8.6, Tables B.8.6-3 and B.8.6-4 App 9a – Section 4.1 and Tables 2 & 3 Seismicity Rating	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	✓ isostatic rise or subsidence; and	App 9a – Section 5.1 Notes about historic underground workings in area proposed for infrastructure	---	---	---
	✓ landslides, slope erosion and the potential for ground and rock instability, and subsidence following project activities;	F.4.4.4 Erosion control measures at closure. Appendix 9a – Section 4.4 Run-out analysis completed on external rock disposal areas	---	---	---
	✓ baseline concentrations of contaminants of concern (within the local, regional, and downstream receiving environments) (including by not limited to selenium, sulphate, cadmium, nitrate, and calcite);	Appendix 10A Section 4.2.4 Site Seep Chemistry Appendix 10B Baseline load balance inputs.	CR #5 Water Quality Section 3.2.3	---	---
	- geochemical characterisation of leaching potential, including, but not limited to, contaminants of concern from waste rock, pit walls, coal stockpiles, coarse coal rejects, and tailings.	C.8.2 App 9c – Section 4 Potential of ARD, Metal Leaching from waste rock, plant residues	---	---	---
6.1.3	**Topography and Soil**				
	- baseline mapping and description of landforms and soils within the local and regional project area;	E.7.2 Baseline soil conditions	CR #7 Soils and Terrain, Section 3.3, Figures 3.3-1, 3.3-2 to 3.3-5 Description of soil map units, figures presenting slope classes and baseline soil and terrain of the RSA	---	---
	- 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; and	---	CR #7 Soils and Terrain Figures 3.3-2 to 3.3-5, and 4.1-1; Section 4.3 Baseline soil and terrain of the RSA and soil layer thickness maps.	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
			Discussion of erosion risk assessment.		
	- suitability of topsoil and overburden for use in the rehabilitation of disturbed areas.	E.7.2.3 Reclamation suitability ratings	CR #7 Soils and Terrain, Sections 4.2 (Table 4.1-2) and 5.3 (Table 5.3-1) Reclamation suitability ratings for soil models and overburden samples.	---	---
6.1.4	**Groundwater and Surface Water**				
	- the characterisation of the hydrogeology at the local and regional scales, including:				
	✓ the hydrogeological context (e.g., hydrostratigraphy with aquifers and aquitards, major faults, etc.) including the delineation of key stratigraphic and hydrogeologic boundaries;	E.3.2.1 Baseline conditions – regional geology	CR #3 Hydrogeology Section 4.4 Figures 4.2-1 to 4.2-8, 4.5-3 Groundwater conditions, springs and groundwater discharge features, and groundwater system summary and surface water-groundwater interactions.	---	---
	✓ the physical properties of the hydrogeological units (e.g., hydraulic conductivity, transmissivity, saturated thickness, storativity, porosity, specific yield);	E.3.2.2, E.3.2.3 Hydrogeology baseline conditions	CR #3 Hydrogeology Section 4.4 Figure 4.4-1, 4.4-3; Tables B3a and B3b Groundwater conditions, hydraulic conductivity	---	SIR1 Q 31 – additional information on groundwater quality at depth is provided in CR #3 Section 4.4.1, 4.4.2 SIR1 Q34 - additional information on hydraulic units is provided in CR #3 Section 3.2.2 and Appendix C

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	✓ the groundwater flow patterns and rates;	E.3.2.3, E.3.2.6	CR #3 Hydrogeology Sections 4.4, 4.6 Figure 4.2-5, 4.2-8, 4.5-3 Table B5	---	---
	✓ a discussion of the hydrogeologic, hydrologic, structural, geomorphic, climatic, and anthropogenic controls on groundwater flow;	E.3.2.5, E.3.2.6 Discharge features, groundwater system summary	CR #3 Hydrogeology Section 4.1 to 4.6	---	---
	✓ temporal changes in groundwater flow (e.g., seasonal and long term changes in water levels);	E.3.2.3, E.3.2.6	CR #3 Hydrogeology Section 4.4, 4.6 Figure 4.4-2	---	---
	✓ a delineation and characterisation of groundwater surface water interactions, including the locations of groundwater discharge to surface water and surface water recharge to groundwater;	E.3.2.5, E.3.2.6	CR #3 Hydrogeology Section 4.5	---	---
	- hydrogeological 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 and strainers, groundwater types springs, surface waters, and project facilities. Groundwater levels, potentiometric contours, flow directions, groundwater divides, and areas of recharge and discharge should be included;	---	CR #3 Hydrogeology Figure 1.1-2, 3.1-1, 4.2-2, 4.2-3, 4.2-4 to 4.2-8, 4.3-1, 4.3-2, 4.5-1, 4.5-3, 5.1-1	---	SIR1 Q 32 – characteristics cross sections of the proposed mine permit boundary showing groundwater levels and pit contours providedin CR #3 Figures 4.2-5 to 4.2-8
	- all groundwater monitoring wells, including their location, in respect to the project area,including geologic, hydrostratigraphic, piezometric, and construction data (e.g., depths of surficial and bedrock units, quality, fracture zones, piezometric levels, hydraulic conductivity, diameter and screen depth, and intercepted aquifer unit);	---	CR #3 Hydrogeology Figures 3.1-1, 4.2-5 to 4.2-8; Tables B2, B3a, B3b, B4, B6 to B10, B12	---	---
	- monitoring protocol for collection of existing groundwater and surface water data;	---	CR #3 Hydrogeology Appendix D Groundwater field procedures CR #5 Water Quality Section 3.1.3.2	---	SIR1 Q 30 – additional information on monitoring parameters and mitigation triggers provided in CR #3 Section 7.1, 7.2

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
			Appendix A2		
	- a conceptual hydrogeological model that integrates the geological, hydrogeological, and hydrological data to provide the overall conceptual understanding of groundwater flow and chemistry and their controls for the area;	---	CR #3 Hydrogeology Section 4.6	---	SIR1 Q 33, 35 – additional information on base flow rates and steady state flow model is provided in CR #3 Appendix C
	- an appropriate numerical hydrogeologic model for the project area, in which quantifies groundwater fluxes, flow path ways, and residence times; the model will be properly calibrated, fully documented and include a sensitivity analysis to test model sensitivity to climatic variations (e.g., recharge) and hydrogeologic parameters (e.g., hydraulic conductivity);	---	CR #3 Hydrogeology Appendix C	---	---
	- groundwater quality, including analytical results for metals, major ions, contaminants of concern, and physical parameters, including temperature	E.3.2.4	CR #3 Hydrogeology Section 4.4, 4.6 Table B7 to B12	---	---
	- graphs or tables indicating the seasonal variations in groundwater levels, flow regime, and quality;	---	CR #3 Hydrogeology Figure 4.4-2 Table B4, B7 to B9	---	---
	- local and regional potable groundwater supplies, including their current use and potential for future use;	E.3.2.7	CR #3 Hydrogeology Section 4.7 Figure 4.7-1 to 4.7-3 Table B14, B15	---	---
	- bedrock fracture sizes and orientations in relation to groundwater flow;	E.3.2.3, E.3.2.6 Groundwater flow and groundwater system summary	CR #3 Hydrogeology Section 4.2, 4.4 Figure 4.2-2	---	---
	- the delineation of drainage basins, at appropriate scales (water bodies and watercourses), including intermittent streams, flood risk areas and wetlands, boundaries of the watershed and subwatersheds, overlaid by key project components;	---	CR #4 Hydrology Figure 42 CR#6 Aquatic Resources Figures 2.1, 2.2	---	---
	- hydrological regimes, including monthly, seasonal, and annual water	E.4.2.2, E.4.2.3	CR #4 Hydrology	---	SIR1 Q 25 – additional

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	flow (discharge) data;	Appendix 10A	Section 3		information on hydrological modelling is provided in Appendix 10A
	- for each affected water body, the total surface area, bathymetry, maximum and mean depths, water level fluctuations, type of substrate (sediments);	---	CR#6 Aquatic Resources Section 3.2.2, 3.3.2 Bathymetry not applicable, as there are no natural lakes occurring in Project LSA	---	---
	- seasonal surface water quality, including analytical results (e.g., water temperature, turbidity, pH, dissolved oxygen profiles, and contaminants of concern) and interpretation, for representative tributaries and water bodies, including all sites to receive mine effluents or runoff;	---	CR #5 Surface Water Quality Section 3.2	---	SIR1 Q 22 – information on winter sampling is provided in CR #5 Section 3.1.3.1, 3.2.3 SIR1 Q 23 – historical information is provided in CR #5 Section 3.2.1
	- surface water quantity, including seasonal changes in runoff entering watercourses;	E.4.3	CR #4 Hydrology Section 5	---	---
	- any local and regional potable surface water resource;	---	CR #4 Hydrology Section 5.1	---	---
	- sediment quality analysis for key sites likely to receive mine effluents.	---	CR #5 Water Quality Section 3.2.3.1 CR #6 Aquatic Resources Section 3.3.2.2 Mine effluent will not be directly released from site.	---	---
6.1.5	**Fish and Fish Habitat**				
	For potentially affected surface waters:				
	- a characterisation of fish populations on the basis of species and life stage, including information on the surveys carried out and the source of data available	Section E.6.2.1.1 and E.6.2.2 for historical data sources and known	CR #6 Aquatic Resources	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	(e.g., location of sampling stations, catch methods, date of catches, species, catch-per-unit effort);	population data. 2016 fish population study methods E.6.2.3.1. Results of survey to be provided in EIA Addendum report in Q1 2017.	Sections 3.1.1, and 3.2.1 Historical data sources and known population data Section 3.3.1.2 2016 fish population study methods. Results of survey to be provided in EIA Addendum report in Q1 2017.		
	- a description of primary and secondary productivity in affected water bodies, including a survey of benthic invertebrate communities with characterisation of seasonal variability;	E.6.2.2	CR #6 Aquatic Resources Section 3.2.2.1	---	---
	- a list of any fish or invertebrate species at risk that are known to be present;	Section E.6.2.1, Table E.6.2-1	CR #6 Aquatic Resources Section 3.1, Table 3.1, Figure 3.1	---	---
	- a description of the habitat by homogeneous section, including the 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, and photos;	Section E.6.2.2 and Section E.6.2.3.1	CR #6 Aquatic Resources Section 3.2.1, and 3.3.1.1	---	---
	- a description of natural obstacles (*e.g.*, falls, beaver dams) or existing structures (*e.g.*, water crossings) that hinder the free passage of fish;	---	CR #6 Aquatic Resources Section 3.2.1.1 and 3.1.1.2. Figure 3.1	---	---
	- maps, at a suitable scale, indicating the surface area of potential or confirmed fish habitat for spawning, nursery, feeding, overwintering, migration routes, etc. This information should be linked to water depths (bathymetry) to identify the extent of a water body's littoral zone;	---	Detailed IFN figures to be provided in EIA Fish & Aquatic Addendum (Q1 2017) Bathymetry not applicable, as there are no natural lakes occurring in Project LSA	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	- the description and location of suitable habitats for fish species at risk that appear on federal and provincial lists and that are found or are likely to be found in the study area and in particular the westslope cutthroat trout in Gold Creek and Blairmore Creek drainages; Note that certain intermittent streams or wetlands may constitute fish habitat or contribute indirectly to fish habitat. The absence of fish at the time of the survey does not irrefutably indicate an absence of fish habitat.	---	CR #6 Aquatic Resources Figure 3.1 Detailed IFN figures to be provided in EIA Fish & Aquatic Addendum (Q1 2017)	---	---
6.1.6	**Migratory Birds and Their Habitat**				
	- the various ecosystems found in the project area likely to be affected based on existing information;	E.9.2.1 Baseline habitat availability	CR#8 Vegetation & Wetlands Section 4.1.1,4.1.2 Figure 3.1-1 CR #9 Wildlife Table 5.1-1	---	---
	- wetlands, including classification, location, size, and function (biochemical, hydrological, and ecological) based on existing information and surveys, if existing information is insufficient;	---	CR #8 Vegetation & Wetlands Section 3.7, Table 3.7-1, Figure 3.7-1 CR #9 Wildlife Table 2.4-1 Wetland classification and size based on wetlands as wildlife habitat	---	---
	- migratory and non-migratory birds (including waterfowl, raptors, shorebirds, marsh birds, and other land birds) based on existing information and surveys, if existing information is insufficient;	E.9.2.3 Baseline wildlife diversity, including migratory and non-migratory birds	CR #9 Wildlife Section 2.4.3.2	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	- year-round migratory bird use of the area (*e.g.*, winter, spring migration, breeding season, fall migration) using existing data and literature as well as surveys to provide current field data; and	---	CR #9 Wildlife, Section 2.4.3.2 Indicates seasons in which observations were made for each identified species	---	---
	- exposure to relevant contaminants of concern (see section 6.1.2) based on data from existing sources.	---	CR #9 Wildlife, Section 4.1 Discussion of wildlife heath assessment CR #12 Human and Wildlife Health, Appendix H Wildlife screening level risk assessment	---	SIR1 Q 39 – information provided in CR #12, Appendix H SIR1 Q40 - CR #12, Appendix H, Section 2.3. Table H.3 SIR1 Q 42 – CR #12, Appendix H, Section 2, 3, 5, 7
6.1.7	**Species at Risk**				
	- a list of all potential or known federally listed species at risk that may be affected by the Project (fauna and flora), using existing data, literature, and surveys to provide current field data;	E.6.2.1, Table 6.2-1 Fish E.8.2.2.1 Vegetation E.9.2.1.3 Wildlife	CR #6 Aquatic Resources, Section 3.1.1, Table 3.1 CR #8 Vegetation & Wetlands, Section 3.2.1 CR #9 Wildlife, Section 2.4.2, Table 2.4-2	---	---
	- a list of all federal species designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) for listing on Schedule 1 of the *Species at Risk Act*. This will include those species in the risk categories of extirpated, endangered, threatened, and special concern ;	E.6.2.1, Table 6.2-1 Fish E.8.2.2.1 Vegetation	CR #6 Aquatic Resources, Section 3.1.1, Table 3.1 CR #8 Vegetation & Wetlands, Section 3.2.1	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		E.9.5.2 Wildlife	CR #9 Wildlife, Section 2.4.2, Table 2.4-2		
	- any published studies that describe the regional importance, abundance, and distribution of species at risk;	E.8.2.2.1 Recovery plans for whitebark pine and limber pine	CR#6, Sections 3.1, 8.0 (Fisheries and Oceans Canada 2014) Recovery Strategy for the Alberta populations of Westslope Cutthroat Trouth CR #8 Vegetation & Wetlands, Section 3.2.1 CR #9 Wildlife, Section 2.4.2	---	---
	- residences, seasonal movements, movement corridors, habitat requirements, key habitat areas, identified critical habitat and/or recovery habitat (where applicable), and general life history of species at risk that may occur in the project area or be affected by the Project; and	---	Detailed fish population and IFN data and figures to be provided in EIA Fish & Aquatic Addendum (Q1 2017) CR#8 Vegetation & Wetlands, Appendix D; Figures 3.2-2 and 3.2-3 Descriptions of whitebark pine and limber pine; maps depicting whitebark and limber pine occurrence in the RSA and LSA CR #9 Wildlife, Sections 4.4, 5.3 and 5.4 Traits are discussed for each valued component (4.4, 5.3) and special status species (5.4), in the context of	---	SIR1 Q 37 – information provided for whitebark pine SIR1 Q 38 – a final response to information request will be provided once all 2016 bat surveys have been completed.

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
			the Application Case Assessment		
	- exposure to relevant contaminants of concern (see section 6.1.2) based on data from existing sources;	---	CR #9 Wildlife, Section 4.1 CR #12 Human and Wildlife Health, Appendix H	---	SIR1 Q 39 – information provided in CR #12, Appendix H SIR1 Q 42 – CR #12, Appendix H, Section 2, 3, 5, 7
6.1.8	**Aboriginal Peoples**				
	With respect to potential effects on Aboriginal peoples and the related VCs, baseline information will be provided for each Aboriginal group identified in section 5 (and any groups identified after these guidelines are finalized). Baseline information will describe and characterise the following, based on the spatial and temporal scope selected for the assessment:				
	- location of traditional territory (including maps where available);	Figures H.3.1-1 to H.13.4-1	---	---	---
	- location of reserves and communities;	Figures H.3.1-1 to H.13.4-1	---	---	---
	- location of hunting camps and cabins;	Figures H.3.1-1 to H.13.4-1	---	---	---
	- drinking water sources (permanent, seasonal, periodic, or temporary);	Figures H.3.1-1 to H.13.4-1	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	- reliance on country foods;	H.3.3.2, H.4.3.2, H.5.3.2, H.6.3.2, H.7.3.2, H.12.3.2 Current use for: Kainai Nation Piikani Nation Siksika Nation Stoney Nakoda Nation Tsuut'ina Nation Metis Nation of Alberta	---	---	---
	- commercial activities (e.g., fishing, trapping, hunting, forestry, outfitting);	H.3.3.2, H.4.3.2, H.5.3.2, H.6.3.2, H.7.3.2, H.12.3.2 Current use for: Kainai Nation Piikani Nation Siksika Nation Stoney Nakoda Nation Tsuut'ina Nation Metis Nation of Alberta	---	---	---
	- recreational uses;	H.3.3.2, H.4.3.2, H.5.3.2, H.6.3.2, H.7.3.2, H.12.3.2 Current use for: Kainai Nation Piikani Nation Siksika Nation Stoney Nakoda Nation Tsuut'ina Nation Metis Nation of Alberta	---	---	---
	- traditional uses currently practiced or practiced in recent history;	H.3.3.2, H.4.3.2, H.5.3.2, H.6.3.2, H.7.3.2, H.12.3.2	---	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
		Current use for: Kainai Nation Piikani Nation Siksika Nation Stoney Nakoda Nation Tsuut'ina Nation Metis Nation of Alberta			
	- fish, wildlife, birds, plants, or other natural resources of importance for traditional use;	Aboriginal background information for: Kainai Nation H.3.3 Piikani Nation H.4.3 Siksika Nation H.5.3 Stoney Nakoda Nation H.6.3 Tsuut'ina Nation H.7.3 Ktunaxa Nation H.8.3, Samson Cree Nation H.9.3 Shuswap Indian Band H.10.3 Foothills Ojibway First H.11.3 Metis Nation of Alberta Region 3 H.12.3, Metis Nation of BC Region 4 H.13.3	CR #8 Vegetation & Wetlands, Section 3.6, Table 3.6-1 CR #9 Wildlife, Section 2.2.8	---	---
	- places where fish, wildlife, birds, plants, or other natural resources are harvested;	Aboriginal background information; TK sites for: Kainai Nation H.3.3, Fig H.3.1-1 Piikani Nation H.4.3, Fig H.4.1-1 Siksika Nation	CR #12 Human Health, Sections 2.2.2 and 5.1.3	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
		H.5.3, Fig H.5.1-1 Stoney Nakoda Nation H.6.3, Fig H.6.1-1 Tsuut'ina Nation H.7.3, Fig H.7.1-1 Ktunaxa Nation H.8.3, Fig H.8.1-1 Samson Cree Nation H.9.3, Fig H.9.1-1 Shuswap Indian Band H.10.3, Fig H.10.1-1 Foothills Ojibway First Nation H.11.3 Metis Nation of Alberta Region 3 H.12.3, Fig H.12.1-1 Metis Nation of BC Region 4 H.13.3, Fig H.13.1-1			
	- access and travel routes for conducting traditional practices;	Kainai Nation H.3.3.2.5 Piikani Nation H.4.3.2.5	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		Siksika Nation H.5.3.2.5 Stoney Nakoda Nation H.6.3.2.5 Tsuut'ina Nation H.7.3.2.5 Ktunaxa Nation H.8.3 Samson Cree Nation H.9.3 Shuswap Indian Band H.10.3 Foothills Ojibway First Nation H.11.3 Metis Nation of Alberta H.12.3.2.5 Metis Nation of BC H.13.3			
	- frequency, duration, or timing of traditional practices;	Kainai Nation H.3.3 Piikani Nation	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		H.4.3 Siksika Nation H.5.3 Stoney Nakoda Nation H.6.3 Tsuut'ina Nation H.7.3 Metis Nation of Alberta H.12.3			
	- cultural values associated with the area affected by the Project and the traditional uses identified;	Kainai Nation H.3.3.5 Piikani Nation H.4.3.5 Siksika Nation H.5.3.5 Stoney Nakoda Nation H.6.3.5 Tsuut'ina Nation H.7.3.5 Ktunaxa Nation	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		H.8.3 Samson Cree Nation H.9.3 Shuswap Indian Band H.10.3 Foothills Ojibway First Nation H.11.3 Metis Nation of Alberta H.12.3 Metis Nation of BC H.13.3			
	- physical and cultural heritage (including any site, structure, or thing of archaeological, paleontological, historical, or architectural significance); and	E.13.1.2, E.13.1.3 Historical resources baseline conditions and site assessment Kainai Nation H.3.3.5 Piikani Nation H.4.3.5 Siksika Nation H.5.3.5	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		Stoney Nakoda Nation H.6.3.5 Tsuut'ina Nation H.7.3.4 Metis Nation of Alberta H.12.3.5			
	- changes to abundance, disturbance, residences, seasonal movements, movement corridors, and habitat requirements for species important to Aboriginal current use of resources for traditional purposes or physical and cultural heritage (e.g., grizzly bear).	E.9.3 Potential impacts to wildlife H.3.4.1, H.4.4.1, H.5.4.1, H.6.4.1, H.7.4.1, H.9.4.1, H.12.4.1	CR #9 Wildlife, Section 5.6.2	---	---
	Any other baseline information that supports the analysis of predicted effects on Aboriginal peoples will be included as necessary. The EIS will also indicate how input from Aboriginal groups was used in establishing the baseline conditions related to health and socio-economics, physical and cultural heritage, and current use of lands and resources for traditional purposes.	See Section 5 Aboriginal Consultation, in this table	See Section 5 Aboriginal Consultation, in this table	---	---
6.1.9	**Other Environmental Changes Arising as a Results of a Federal Decision of Authorisation**				
	Should there be the potential for a change to the environment arising as a result of a federal decision(s), for example an authorisation under section 35 of the Fisheries Act, the EIS will include baseline information (not already covered in other subsections of these guidelines) in support of the assessment of the changes to the environment arising as a result of the specific components or directly linked or necessarily incidental activities being authorised and any changes to the environment that are directly linked or necessarily incidental to those authorisations.	---	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
6.1.10	**Human Environment**				
	The EIS will contain baseline information on the following:				
	- the rural and urban settings likely to be affected by the Project;	E.10.3	CR #10 Land & Resource Use, Section 4.1	---	---
	- the current use of land in the study area, including a description of hunting, recreational and commercial fishing, trapping, gathering, outdoor recreation, use of seasonal cabins, outfitters;	E.10.2 Current land use H.3.3.2, H.4.3.2, H.5.3.2, H.6.3.2, H.7.3.2, H.9.3, H.12.3.2, H.13.3 Current Aboriginal land use	CR #10 Land & Resource Use, Sections 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10 CR #12 Human Health, Section 5.1.3 Aboriginal land uses/human health receptors	---	---
	- current use of all waterways and water bodies that will be directly affected by the Project, including recreational uses, where available;	---	CR #10 Land & Resource Use, Section 4.2.4	---	---
	- location of and proximity of any permanent, seasonal, or temporary residences or camps;	Figure A.1.0-2	CR #10 Land & Resource Use, Figure 4.1-1 Fig 4.1-1 shows land ownership in LSA and RSA, including cabins. CR #12 Human Health, Section 5.1.3	---	---
	- health and socio-economic conditions, including the functioning and health of the socioeconomic environment, encompassing a broad range of matters that affect communities in the study area in a way that recognises interrelationships, system functions, and vulnerabilities; and	E.11.2	CR #11 Socio-economics, Section 3, 7.2, 8.2, 9.2 Socio-economic setting; Social infrastructure setting; Municipal infrastructure setting; TLU and Aboriginal culture setting CR #12 Human Health, Section 3.0 Summary of existing human health conditions	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	- physical and cultural heritage, including structures, sites, or things of historical, archaeological, paleontological, or architectural significance.	E.13.1.2, E.13.1.3	---	---	---
6.2	**Predicted Changes to the Physical Environment**				
	The assessment will include a consideration of the predicted changes to the environment as a result of the Project being carried out or as a result of any powers duties or functions that are to be exercised by the federal government in relation to the Project. These predicted changes to the environment are to be considered in relation to each phase of the Project (construction, operation, decommissioning, and abandonment) and are to be described in terms of the geographic extent of the changes, the duration and frequency of change, and whether the environmental changes are reversible or irreversible. The EIS should consider changes to the environment that may result from landslides, slope erosion, ground and rock instability, and subsidence during and following project activities. The EIS will also include an assessment of any transboundary effects.				
6.2.1	**Changes to the Atmospheric Environment**				
	- changes in air quality;	E.1.3.3, E.1.3.4 Potential impacts	CR #1a Air Quality, Sections 5.1 to 5.13, 6.4; Table 6.4-1	---	SIR1 Q 10 – equipment requirements table has been updated in CR #1a Appendix A Table A3-3 and Exhaust emissions have been updated in CR #1a Appendix A Section A.5.1. SIR1 Q 11 – CALPUFF parameters are provided in CR #1a Appendix B Section 4.3 SIR1 Q 13 – cumulative effects information provided in CR #1a Section 4.7
	- changes in ambient noise levels; and	E.2.3.1 Potential impacts to noise levels	CR #2a Noise, Sections 5.1 to 5.3, Figures 2 to 7	---	SIR 1 Q 46a – impact of blasting noise noise is provided in CR #2a Section 5.4.2 SIR 1 Q 46b – noise assessment for Project phases. CR #2a Section 3.3 indicates three scenarios (years) modeled. Not

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
					practical to model phase because phases overlap as the mine progresses.
	- changes in night-time light levels.	---	CR #1a Air Quality, Section 5.16.2	---	---
6.2.2	**Changes to the Groundwater and Surface Water**				
	- hydrogeological maps and cross-sections for the mine area modified to indicate project facilities and predicted changes in topography, hydrogeology, and groundwater flow;	---	CR #3 Hydrogeology Figures 5.1-1, 5.3-1 to 5.3-9	---	---
	- changes groundwater flow patterns, fluxes, and divides based on the results of groundwater flow modelling that incorporates changes related to mining;	E.3.3.1 Effect of pit dewatering on groundwater quantity	CR #3 Hydrogeology Section 5.3 Figure 5.3-2, 6.3-6	---	---
	- changes to turbidity, oxygen level, water temperature, ice regime, water quality;	E.5.3 Potential surface water quality impacts	CR #5 Water Quality Section 4	---	---
	- changes in surface water quality and sediment quality associated with any mine effluent or releases or surface runoff;	E.5.3 Potential surface water quality impacts Appendix 10B Section 8.3	CR# 5 Water Quality, Sections 4.1.1.3, 4.4.1.3	---	SIR1 Q 16a Comparison of background and modeled selenium levels provided in Appendix 10B Section 8. SIR1 Q16b selenium mitigation information provided in Section C.8, CR #5 Section 4.1.1.2 SIR1 Q 17 – additional information about the water quality model is provided in Appendix 10B SIR1 Q 18 – discharging anoxic water to Blairmore Creek from saturated zones + mitigations – information provided in CR #5 Section 4.1.1

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
					SIR1 Q 24 – information on water quality reference sites provided in CR #5 Section 3.2.3.1; CR #6 Section 3.3.2.1 SIR1 Q26 – wastewater is no longer being discharged to subsurface, rather being trucked away (Section C.6.17) SIR1 Q 27 – water quality inputs/outputs are provided in Appendix 10B and its Appendix C; effluent volumes and quality prior to release are provided in Appendix 10B (Appendix C1 and C2 – quanity; Section 8.3 - quality)
	- changes to the hydrological and hydrometric conditions including stream baseflow conditions;	E.4.3.2 Potential changes in base flows	CR #4 Hydrology Section 5, 6.4	---	---
	- changes to groundwater recharge/discharge areas and groundwater surface water interactions; and	E.3.3.1 Effect of pit dewatering on groundwater quantity	CR #3 Hydrogeology Section 5.3	---	---
	- changes to groundwater quality associated with storage or release of any mine effluents or drainage, including runoff;	E.3.3.2, E.3.3.3 Potential impacts of mine waste rock and mine operations on groundwater quality	CR #3 Hydrogeology Section 5.3	---	SIR1 Q26 – wastewater is no longer being discharged to subsurface, rather being trucked away (Section C.6.17)
	- an analysis of oxidation of primary sulphides and any occurrence of secondary soluble sulphate minerals susceptible to causing acid mine drainage when dissolved in groundwater or precipitation;	App 10A – Sec 4.1.1, 4.1.2, 4.2.1, 4.2.2, 4.3.1, 4.3.2 Sulphur Occurrences and Neutralization Potential	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	- changes to groundwater and surface water quality attributed to acid or neutral rock drainage and metal leaching associated with the storage of waste rock, coal, tailings, overburden, and potential construction material:	C.8.2 Geochemistry and selenium management Acid rock drainage potential, trace elements, kinetic tests App 10A – Sections 4.1.4, 4.2.3, 4.3.3 Sections 4.1.5, 4.2.4, 4.3.4 Metal leaching potential	---	---	---
	✓ short term metal leaching properties;	C.8.2.1.2, C.8.2.2.2, C.8.2.3.2, C.8.3.2 Appendix 9c Section 2 Appendix 10A Sections 4.1.5, 4.2.4, 4.3.4	---	---	---
	✓ longer term rates of acid generation (if any) and metal leaching;	C.8.3.2 Appendix 9c Section 3 Appendix 10A Sections 4.1.4, 4.2.3, 4.3.3	---	---	---
	✓ estimates of the potential for mined materials (including waste rock, reject material, tailings, and coal) to be sources of acid rock drainage or metal leaching;	C.8.2.1.2, C.8.2.2.2, C.8.2.3.2, C.8.3.2 Appendix 9c – Sections 2 & 3 The potential for metal leaching and ARD described in both sections.	---	---	---
	✓ estimates of potential time to the onset of acid rock drainage or metal leaching;	Appendix 10A, Section 5.0	---	---	---
	✓ quantity and quality of leachate from samples of reject material, waste rock, tailings, and coal;	C.8.2.1.4, C.8.2.3.3 Leachate quality Appendix 10A Section 4 Leachate quality and quantity	---	---	---
	✓ quantity and quality of effluent to be released from the site into the receiving waters;	No release of effluent to occur	---	---	---
	✓ quality of humidity cell or column test liquid from acid rock testing;	App 10A – Sections 4.1.6 and 4.3.5, and Figures 12 to 15	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	✓ sensitivity analysis to assess the effects of imperfect segregation of waste rock;	Appendix 10B Section 6.2	---	---	---
	✓ pit water chemistry during operation and post-closure, and pit closure management measures (*e.g.*, flooding). This will include geochemical modelling of pit water quality in the post-closure period;	Appendix 10B Section 8	---	---	---
	✓ surface and seepage water quality from the waste rock dumps, tailings/waste rock impoundment facility, stockpiles, and other infrastructure during operation and post-closure; and	Appendix 10B Section 8	---	---	SIR1 Q 21 – additional information on seepage management is provided in Appendix 10A Section 5, 6; Appendix 10B Section 2.3.4; CR #5 Section 4.1.1.2, 4.1.1.3
	✓ changes in water quality and sediments due to contaminants of concern in potentially affected waterbodies and associated tributaries.	---	CR #5 Section 4	---	SIR1 Q 14– additional information is provided in C.8, CR #5 Section 2.2.2

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
6.2.3	**Changes to Terrestrial Environment**				
	– overall description of changes related to landscape disturbance;	E.7.3 Potential impacts to soils and terrain E.8.3 Potential impacts to vegation and wetlands E.9.3.1, E.9.3.2, E.9.3.7 Potential impacts to wildlife habitat availability and fragmentation F.4.1, 4.4, 4.5 Table F.4.1-1, F.4.3-1 Reclaimed landscapes	CR #7 Soils and Terrain, Sections 7.1.1, 7.2.1, 7.3.1, and 7.4.1 Application case assessments for soils and terrain CR#8 Vegetation & Wetlands Section 4.1.1, 4.1.2, 4.2.1 to 4.2.3, 4.3.1, 4.4.1, 4.5.1, 4.5.2, 4.6.1, 4.7.1, 4.8.1, 4.9.1 Application case assessments for vegetation and wetlands CR#9 Wildlife, Section 5.1 to 5.5. Potential impacts to wildlife and wildlife habitat	SIR1 Q 7.1 – additional information has been provided in the Closure Plan (F.4)	---
	– changes to migratory bird habitat, including losses, structural changes, fragmentation of habitat and wetlands (cover types, ecological land unit in terms of quality, quantity, diversity, distribution, and functions) used by migratory birds;	E.9.3.1, E.9.3.2, E.9.3.7, E.9.3.8 Potential impacts to wildlife habitat, habitat fragmentation, migratory birds	CR #9 Wildlife, Section 5.5, 5.1, 5.3.3.1, 5.3.3.2, 5.4.1, Table 5.1-1, Table 4.6-1	SIR1 Q 10- migratory bird information has been provided in CR #9 Section 4.6, 5.5	---
	– changes to critical habitat for federally listed species at risk; and	E.9.2.1.3	CR #9 Wildlife, 4.2.3	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	– changes to key habitat for species important to Aboriginal people's current use of resources.	H.3.4.1, H.4.4.1, H.5.4.1, H.6.4.1, H.7.4.1, H.9.4.1, H.12.4.1 Potential effects on current Aboriginal land and resource use	CR#9 Wildlife, Sections 5.3.1.1/2, 5.3.4.1/2, 5.3.7.1/2, 5.3.8.1/2, 5.3.9.1/2, 5.3.10.1/2, 5.4.3 and tables therein Potential effects on habitat availability and fragmentation for seven traditional use wildlife species CR#9 Wildlife Section 5.6 Effects on traditional use CR#8 Vegetation & Wetlands, Section 4.6.1, Table 4.6-1 Potential effecs on TEK vegetation species	---	---
6.3	**Predicted Effects on Valued Components**				
	Based on the predicted changes to the environment identified in section 6.2, the proponent is to assess the environmental effects of the Project on the followings VCs:				
6.3.1	**Fish and Fish Habitat**				
	- the identification of any potential serious harm to fish, including the calculations of any potential habitat loss (temporary or permanent) in terms of surface areas (e.g., spawning grounds, fry-rearing areas, feeding), and in relation to watershed availability and significance. The assessment will include a consideration of:	Section E.6.3	CR #6 Aquatic Resources, Section 4	Conformance SIR1 Q 8, 9 and Technical SIR1 Q 1 to 9 will be provided in Fish and Aquatic Resources Addendum in Q1 2017. Work Plan to address these information requests have been reviewed and approved by AER and DFO.	
	✓ the geomorphological changes and their effects on hydrodynamic conditions and fish habitats (e.g., modification of substrates, dynamic imbalance, silting of spawning beds);	Section E.6.3	CR #6 Sections 3.3.1.1 outlines methodology for full geomorphology assessment as part of 2016 IFN study	See above statement	
	✓ the modifications of hydrological and hydrometric conditions on fish habitat and on the fish species' life cycle activities (e.g., reproduction,	Section E.6.3	CR #6 Section 4.1.2.1 overview of changes	See above statement	

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	fry-rearing, movements);		in flow. IFN methodology on 2016 assessment provided in Section 3.3.1.3		
	✓ potential impacts on riparian areas that could affect aquatic biological resources and productivity taking into account any anticipated modifications to fish habitat;	Section E.6.3	CR #6 Section 4.1.2.1 overview of changes in flow, which will incorporate changes in surface drainage. IFN methodology on 2016 assessment provided in Section 3.3.1.3	See above statement	
	✓ any potential imbalances in the food web in relation to baseline;	Section E.6.3	CR #6 Section 4.1.2.1 overview of changes in flow and Section 4.1.2.2 changes in water quality. Fish health and aquatic resources survey for 2016 described in Section 3.3.2	See above statement	
	✓ effects on primary and secondary productivity of water bodies, including a discussion of sensitive species in the benthic invertebrate communities and how mine-related effects may affect fish food sources;	Section E.6.3	CR #6, Section 4.1.2.1 overview of changes in flow and Section 4.1.2.2 changes in water quality. Fish health and aquatic resources survey for 2016 described in Section 3.3.2	See above statement	
	- the effects of changes to the aquatic environment on fish and their habitat, including;	---	---	---	
	✓ the anticipated changes in the composition and characteristics of the populations of various fish species, including and forage fish;	Section E.6.3	CR #6 Section 3.3.1.2 for 2016 fish population assessment methodology	See above statement	
	✓ any modifications in migration or local movements (upstream and downstream migration, and lateral movements) following the construction and operation of works;	Section E.6.3	CR #6 Section 3.3.1.2 for 2016 fish population assessment methodology	See above statement	
	✓ any reduction in fish populations as a result of potential overfishing due to increased access to the project area; and	Section E.6.3.1.3.3	CR #6 Section 3.3.1.2 for 2016 fish population assessment	See above statement	

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
			methodology		
	✓ any modifications and use of habitats by federally or provincially listed fish species (i.e. westslope cutthroat trout) including anticipated changes in water quantity and influence on the ability of fish to access spawning, nursery, rearing, food supply and migration habitat;	Section E.6.3	CR#6 Section 4.1.2.1 overview of changes in flow, which will incorporate changes in surface drainage. IFN methodology on 2016 assessment provided in Section 3.3.1.3	See above statement	
	- a discussion of how project construction timing correlates to key fisheries windows for fish species, and any potential impacts resulting from overlapping periods;	---	CR#6 Section 4.1	See above statement	
	- a discussion of how vibration caused by blasting may affect fish behaviour, such as spawning or migrations;	---	CR#6 Section 4.1.2.2	See above statement	
	- changes in concentrations of contaminants of concern in the aquatic ecosystem (including, but not limited to, westslope cutthroat trout, rainbow trout, and mountain whitefish) ; and	Section E.6.3.1.3.2	CR#6 Section 4.1.2.1 overview of changes in flow Section 4.1.2.2 changes in water quality. Section 3.3.2 Fish health and aquatic resources survey for 2016	See above statement	
	- changes to fish health resulting from increased contaminants of concern.	Section E.6.3.1.3.2	CR#6 Section 4.1.2.1 overview of changes in flow Section 4.1.2.2 changes in water quality. Section 3.3.2 Fish health and aquatic resources survey for 2016	See above statement	
	- a description, or conceptual model as appropriate, of how changes in water quantity in watercourses will influence tha ability of fish to acess spawning, nursery, rearing, food supply and migration habitat.	Section E.6.2.3.1	CR#6 Section 3.3.1.3 describes IFN Study approach.	See above statement	
6.3.2	**Migratory Birds**				

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	- direct migratory bird mortality from project activities, such as clearing of sites, or birds and nests being in contact with contaminated waters (e.g., surface water drainage ponds);	E.9.3.3, E.9.3.8	CR #9 Wildlife Section 5.5.1, 5.5.3, 5.3.3.1, 5.3.3.3, 5.4.1, 5.4.2 Effects due to habitat loss and change in mortality risk for migratory birds in general, and for individual species of migratory birds assessed	SIR1 Q 10.1, 10.2 – additional migratory bird information is provided in CR #9 Section 5.5	SIR1 Q 41b, c – impact of surge ponds (selenium) on migratory birds/wildlife. Information provided in CR #9 Section 5.5.3, 5.3.1.3, 5.3.1.4, 5.4.4, 5.4.5. Mitigations provided in Section C.8, CR #9 Section 7.1.4, 7.1.5, 7.2.
	- collision risk of migratory birds with any project components or activities;	E.9.3.3 Summary of potential mortality risks to wildlife, including collision risk to migratory birds	CR #9 Wildlife Section 5.5.3, 4.4.3.4, 5.3.3.3, 5.4.1, 5.4.2.1 Sections discuss potential collisions for migratory birds in general, and for individual species of migratory birds assessed	SIR1 Q 10.1, 10.2 – additional migratory bird information is provided in CR #9 Section 5.5	---
	- changes to relative abundance, movements, and use of habitat, including wetlands, by migratory birds due to increased disturbance (e.g., noise, light, presence of workers); and	---	CR #9 Wildlife Section 3.1.1, 5.5.1, 5.3.3.1, 5.4.1, 5.4.2.1 Potential effects of sensory disturbance are discussed for wildlife in general, migratory birds in general, and two assessed migratory bird species	SIR1 Q 10.1, 10.2 – additional migratory bird information is provided in CR #9 Section 5.5	---
	- direct and indirect effects to migratory birds resulting from increased exposure to contaminants of concern.	E.9.3.5	CR #9 Wildlife Section 4.1 Discussion of wildlife heath assessment CR #12 Human and Wildlife Health, Appendix H Wildlife screening level risk	SIR1 Q 10.1, 10.2 – additional migratory bird information is provided in CR #9 Section 5.5	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
			assessment		
6.3.3	Species at Risk				
	- direct and indirect effects of the Project on federally listed species at risk and those species listed by COSEWIC classified as extirpated, endangered, threatened, or of special concern (flora and fauna) and their critical habitat including:	E.6.2.1 Westslope cutthroat trout E.8.3.2 Effects assessment on whitebark pine and limber pine E.9.3.1 to E.9.3.5; E.9.3.7 Potential impacts to wildlife in general; potential impacts to VCs, including SARA and COSEWIC species	CR #6 Aquatic Resources Section 2.1, 3.1 Summary of predicted effects on VCs, including westslope cutthroat trout CR #8 Vegetation & Wetlands Section 4.2.1 Assessment for whitebark pine and limber pine. CR #9 Wildlife Sections 5.3.2, 5.3.3, 5.3.5, 5.3.8, 5.4.1, 5.4.2, 5.4.3, 5.4.8; Section 4.2.3 Effects assessments for four SARA-listed species and four COSEWIC-listed species. Discussion of critical habitat for SAR (4.2.3)	SIR1 Q 11 will be provided in Fish and Aquatic Resources Addendum in Q1 2017.	SIR1 Q 1 to 9 will be provided in Fish and Aquatic Resources Addendum in Q1 2017. Work Plan to address these information requests have been reviewed and approved by AER and DFO.
	✓ direct and indirect effects resulting from increased exposure to contaminants of concern.	---	CR #5 Water Quality Section 4 CR #9 Wildlife Section 4.1 CR #12 Human and Wildlife Health Appendix H	---	---
	✓ direct and indirect effects on the survival or recovery of federally listed species (e.g., westslope cutthroat trout);	---	CR#6 Aquatic Resources Section 3.3.1.2 CR #8 Vegetation & Wetlands	---	Responses to Technical SIR #1-9 will be provided in Fish and Aquatic Resources Addendum in Q1 2017. Work Plan to

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
			Section 4.2.1 CR #9 Wildlife Section 5.3.2.3, 5.3.3.3, 5.3.5.3, 5.3.8.3, 5.4.1, 5.4.2, 5.4.3, 5.4.8		address these information requests have been reviewed and approved by AER and DFO.
	✓ direct and indirect impacts to existing Recovery Strategy and Action Plans including a discussion of how population and distribution objectives set out in those documents would be affected.	E.6.3.1.1 E.8.5.1 E.9.5.1	CR#6 Aquatic Resources, Section 5 CR #8 Vegetation & Wetlands Section 4.2.6.3 Discussion of Alberta Recovery Plans for whitebark pine and limber pine CR #9 Wildlife Section 5.3.3.5 and Section 5.4.2.2 Discussions of Project effects on federal recovery strategies of olive-sided flycatcher and common nighthawk	---	Responses to Technical SIR #1-9 will be provided in Fish and Aquatic Resources Addendum in Q1 2017. Work Plan to address these information requests have been reviewed and approved by AER and DFO.
6.3.4	**Aboriginal Peoples**				
	With respect to Aboriginal peoples, a description and analysis of how changes to the environment caused by the Project will affect:				
	- the current uses of land and resources for traditional purposes, including, but not limited to:				
	✓ any effects on resources (fish, wildlife, birds, plants, or other natural resources) used for traditional uses (e.g., hunting, fishing, trapping, collection of medicinal plants, use of sacred sites); and	H.3.5.1, H.4.5.1, H.5.5.1, H.6.5.1, H.7.5.1, H.9.5.1, H.12.5.1 Residual effects on current use of lands and resources	---	SIR1 Q 5.1 – see response	---
	✓ any effects of alterations to access into the areas used for traditional uses, including development of new roads, deactivation or reclamation of access roads, and changes to waterways that affect navigation;	H.3.5.1, H.4.5.1, H.5.5.1, H.6.5.1, H.7.5.1, H.9.5.1, H.12.5.1 Residual effects on current use of lands	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		and resources			
	✓ any effects on cultural value or importance associated with traditional uses or areas affected by the Project (e.g., inter-generational teaching of language or traditional practices, communal gatherings);	H.3.5.3, H.4.5.4, H.5.5.3, H.6.5.3, H.7.5.3, H.12.5.4 Residual effects on Aboriginal physical and cultural heritage	---	---	---
	✓ how project construction timing correlates to the timing of traditional practices, and any potential impacts resulting from overlapping periods;	H.3.4.1.3, H.4.4.1.3, H.5.4.1.3, H.6.4.1.3, H.7.4.1.2, H.9.4.1.4, H.12.4.1.5 Potential effects to current plant gathering H.3.5.1.3, H.4.5.1.3, H.5.5.1.3, H.6.5.1.3, H.7.5.1.2, H.9.5.1.4, H.12.5.1.5 Residual effects to current plant gathering	---	---	---
	✓ the regional value of traditional use of the project area and the anticipated effects to traditional practice of the Aboriginal group, including alienation of lands from Aboriginal traditional use;	H.3.4.1, H.4.4.1, H.5.4.1, H.6.4.1, H.7.4.1, H.9.4.1, H.12.4.1 Potential effects to current use of lands and resources H.3.5.1, H.4.5.1, H.5.5.1, H.6.5.1, H.7.5.1, H.9.5.1, H.12.5.1 Residual effects to current use of lands and resources	---	---	---
	✓ indirect effects such as avoidance of the area by Aboriginal peoples due to increased disturbance (e.g., noise, presence of workers); and	H.3.4.1, H.4.4.1, H.5.4.1, H.6.4.1, H.7.4.1, H.9.4.1 Potential effects to current use of lands and resources (avoidance was not mentioned by an Aboriginal group) H.3.5.1, H.4.5.1, H.5.5.1, H.6.5.1, H.7.5.1, H.9.5.1, H.12.5.1	---	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
		Residual effects to current use of lands and resources			
	✓ an assessment of the potential to return affected areas to pre-disturbance conditions to support traditional practices;	H.3.5.1, H.4.5.1, H.5.5.1, H.6.5.1, H.7.5.1, H.9.5.1, H.12.5.1 Residual effects to current use of lands and resources F.1.6 End land use F.1.9 TEK in reclamation planning	---	---	---
	– human health, considering, but not limited to, potential changes in air quality, quality and availability of country foods, drinking water quality, and noise exposure. When risks to human health due to changes in one or more of these components are predicted, a complete Human Health Risk Assessment examining all exposure pathways for pollutants of concern may be necessary to adequately characterise potential risks to human health;	E.12 Summary of full HHRA H.3.5.2 H.4.5.2, H.5.5.2, H.6.5.2, H.7.5.2 Residual effects to Aboriginal health	CR #12 Human Health Risk Assessment	---	SIR1 Q 43 – information provided in CR #12 SIR1 Q 44 – information on country foods is provided in CR #12 Section 5.1.3.2 (exposure estimates are conservative if they include foods not consumed, such as fish) SIR1 Q 45 – health risk from leachate – not assessed as Project assumed to have no significant effect on water quality (CR #12 Section 5.1.1, CR #3 Section 5.6, CR #5 Table 18) SIR1 Q 46 - impact of blasting noise noise is provided in CR #2a Section 5.4.2

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	– socio-economic conditions, including, but not limited to;				
	✓ the use of navigable waters;	Not applicable	---	---	---
	✓ forestry and logging operations;	H.3.4.3, H.4.4.3, H.5.4.3, H.6.4.3, H.7.4.3, H.9.4.3, H.12.4.3 Potential effects to Aboriginal socio-economic conditions H.4.5.3, H.12.5.3 Residual effects to Aboriginal socio-economic conditions (Piikani Nation and Metis Nation of Alberta)	---	---	---
	✓ commercial fishing, hunting, trapping, and gathering activities;	H.3.4.3, H.4.4.3, H.5.4.3, H.6.4.3, H.7.4.3, H.9.4.3, H.12.4.3 Potential effects to Aboriginal socio-economic conditions H.4.5.3, H.12.5.3 Residual effects to Aboriginal socio-economic conditions (Piikani Nation and Metis Nation of Alberta)	---	---	---
	✓ commercial outfitters; and	H.3.4.3, H.4.4.3, H.5.4.3, H.6.4.3, H.7.4.3, H.9.4.3, H.12.4.3 Potential effects to Aboriginal socio-economic conditions H.4.5.3, H.12.5.3 Residual effects to Aboriginal socio-economic conditions (Piikani Nation and Metis Nation of Alberta)	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	✓ recreational use, including wildlife viewing;	H.3.4.3, H.4.4.3, H.5.4.3, H.6.4.3, H.7.4.3, H.9.4.3, H.12.4.3 Potential effects to Aboriginal socio-economic conditions H.4.5.3, H.12.5.3 Residual effects to Aboriginal socio-economic conditions (Piikani Nation and Metis Nation of Alberta)	---	---	---
	- physical and cultural heritage, and structure, site, or thing of historical, archaeological, paleontological, or architectural significance to Aboriginal groups, including, but not limited to:				
	✓ the loss or destruction of physical and cultural heritage;	E.13.1.4.1, E.13.1.4.2 Potential archaeological impacts; potential paleontological impacts H.3.4.4, H.4.4.4, H.5.4.4, H.6.4.4, H.7.4.4, H.9.4.4, H.12.4.4 Potential effects H.3.5.3, H.4.5.4, H.5.5.3, H.6.5.3, H.7.5.3, H.12.5.4 Residual effects	---	---	---
	✓ changes to access to physical and cultural heritage; and,	H.3.4.4, H.4.4.4, H.5.4.4, H.6.4.4, H.7.4.4, H.9.4.4, H.12.4.4 Potential effects H.3.5.3, H.4.5.4, H.5.5.3, H.6.5.3, H.7.5.3, H.12.5.4 Residual effects	---	---	---
	✓ changes to the cultural value or importance associated with physical and cultural heritage;and	H.3.4.4, H.4.4.4, H.5.4.4, H.6.4.4, H.7.4.4, H.9.4.4, H.12.4.4	---	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
		Potential effects H.3.5.3, H.4.5.4, H.5.5.3, H.6.5.3, H.7.5.3, H.12.5.4 Residual effects			
	- Other effects of changes to the environment on Aboriginal peoples should be reflected as necessary.	---	---	---	---
6.3.5	**Other Valued Components that may be Affected as a Result of a Federal Decision**				
	If there is the potential for a change to the environment arising as a result of a federal decision(s), for example an authorisation under section 35 of the Fisheries Act, the EIS should include a description of the specific project components for which a federal authorisation/decision is required, and an assessment of any other valued components (not already covered in other subsections of these guidelines) that may be affected by the changes to the environment caused by these specific project components. Such an assessment may include a consideration of the following:				
	– effects on hunting, recreational and commercial fishing, trapping, gathering, outdoor recreation, use of seasonal cabins, outfitters;	E.10.3.1, E.10.3.4, E.10.3.6	CR #10 Land Use Section 5.2, 5.5, 5.7	---	---
	– changes to the use of waterways and water bodies;	Not Applicable	---	---	---
	– location of and proximity of any permanent, seasonal, or temporary residences or camps;	Figure A.1.0-2	CR #10 Land & Resource Use Figure 4.1-1 CR #12 Human Health Figure A.2	---	---
	– effects on the health and socio-economic conditions, including the functioning and health of the socio-economic environment, encompassing a broad range of matters that affect communities in the study area in a way that recognises interrelationships, system functions and vulnerabilities; and	E.11.2, E.11.3	CR#11 Socio-economics Sections 2 to 10 CR#12 Human Health Section 6, 7	---	---
	– effects on physical and cultural heritage, including structures, sites, or things of historical, archaeological, paleontological, or architectural significance.	E.13	---	---	---
6.4	**Mitigation**				
	Every EA conducted under CEAA 2012 will consider measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the Project. Each measure will be specific, achievable, measurable, and verifiable, and described in a manner that avoids ambiguity in intent, interpretation, and implementation. Mitigation measures may be considered for inclusion as conditions in the EA decision statement and in other compliance and enforcement mechanisms provided by other authorities' permitting or licensing processes.				

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	As a first step, the proponent is encouraged to use an approach based on the avoidance and reduction of the effects at the source. Such an approach may include the modification of the design of the Project or relocation of project components. 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 (including the measures directed at promoting beneficial or mitigating adverse socio-economic effects). The EIS will then describe the Project's environmental protection plan and its environmental management system, through which the proponent will deliver this plan. The plan will provide an overall perspective on how potentially adverse effects would be minimised and managed over time. 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. The EIS will then describe mitigation measures that are specific to each environmental effect identified. Measures will be written as specific commitments that clearly describe how the proponent intends to implement them and the environmental outcome the mitigation is designed to address. 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. 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 to eliminate or reduce the significance of adverse effects. The impact statement will also present an assessment of the effectiveness of the proposed technically and economically feasible mitigation measures. The reasons for determining if the mitigation measure reduces the significance of an adverse effect will be made explicit. The EIS will indicate what other technically and economically feasible mitigation measures were considered, and explain why they were rejected. Trade-offs between cost savings and effectiveness of the various forms of mitigation will be justified. The EIS will identify who is responsible for the implementation of these measures and the system of accountability. 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, and, where appropriate, contingency measures should be identified. In addition, the EIS will identify the extent to which technology innovations will help mitigate environmental effects. Where possible, it will provide detailed information on the nature of these measures, their implementation, management, and the requirements of the follow-up program. Adaptive management is not considered as a mitigation measure, but, if the follow-up program (refer to section 9) indicates that corrective action is required, the proposed approach for managing the action should be identified.				
	Environmental Protection Plan	C.7.6 (refers to Section F for site reclamation – see F.2.3, F.2.5, F.2.6, F.2.7, F.3, F.4)	---	---	---
	Environmental Management System	C.7	---	---	---
	Air Quality	A.11.1.1 E.1.4.1	CR#1a Air Quality & Climate Section 6.6	---	---
	Greenhouse Gas & Climate	E.1.4.1	CR#1a Air Quality & Climate Section 6.6	---	SIR1 Q48 – A.82, C.7.9 – GHG project contribution and mitigations, respectively
	Noise	A.11.2.1 E.2a.5.1, E.2a.5.2	CR #2a Noise Section 5.4	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	Hydrogeology	A.11.3.1 E.3.5.1	CR #3 Hydrogeology Sections 5.3.3, 5.4.3, 5.5.3	---	---
	Hydrology	A.11.4.1 E.4.5.1 C.5	CR #4 Hydrology Section 6.4	---	---
	Surface Water Quality	A.11.5.1 E.5.5.1 C.5, C.8	CR #5 Surface Water Quality Sections 4.1.1.2, 4.2.1.2, 4.3.1.2, 4.4.1.2	---	---
	Fisheries/ Aquatic Ecology	A.11.6.1 E.6.3.1.1 F.2.1.4	CR #6 Aquatic Resources Section 6.0	SIR1 Q9.1 response (impacts to fish and fish habitat, mitigation) will be provided in Fish and Aquatic Resources Addendum in Q1 2017.	---
	Terrain & Soils	A.11.7.1 E.7.5.1 F.3.4, F.3.6.1, F.3.6.2	CR #7 Soils & Terrain Sections 7.1.3, 7.2.3, 7.3.3, and 7.4.3	---	---
	Vegetation & Wetlands	A.11.8.1 E.8.5.1 F.2.5, F.2.7, F.3.1, F.3.2, F.3.3, F.3.6.3	CR #8 Vegetation & Wetlands Sections 4.1.5.1, 4.2.6, 4.3.4.1, 4.4.4.1, 4.5.4, 4.6.4.1, 4.7.4.1, 4.8.4.1, 4.9.4.1, 4.10.3, 5.2	---	---
	Wildlife	A.11.9.1 E.9.5.1 F.2.6, F.3.2	CR #9 Wildlife Section 7.1	---	---
	Land Use	A.11.10 E.10.5 F.1.6, F.6	CR #10 Land & Resource Use Section 6.0	---	---
	Socio-Economics	A.11.11 E.11.5	CR #11 Socio-economics Sections 1.2, 5.4, 6.4, 7.4, 8.4, 9.4,	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
			10.4		
	Human Health	A.11.12 E.12.5	CR #12 Human Health Section 6.5 (Refers to CR #1a Air Quality, Section 6.6 monitoring program, and all mitigation summaries provided in Section A.11)	---	SIR1 Q 43 – information on mitigation provided in CR #12 Section 6.5 and CR #1a Section 6.6
	Historical Resources	A.11.13.1 E.13.3.3 E.13.5	---	---	--
	Traditional Land and Resource Use	H.3.4, H.4.4, H.5.4, H.6.4, H.7.4, H.8.4, H.9.4, H.10.4, H.11.4, H.12.4, H.13.4	---	---	---
	Accidents or Malfunctions Assessment	C.9 See Design and Operations Safeguards section for each accident and malfunction	---	---	---
	Alternative Means Assessment – Environmental Evaluations	A.7 See Environmental Evaluation sections of A.7.2 to A.7.11	---	SIR1 Q 3 – additional information on additional means is provided in Section A.7	---
6.5	**Significant Residual Effects**				
	After having established the technically and economically feasible mitigation measures, the EIS will present any residual environmental effects of the Project on the VCs identified in section 6.3. The residual effects, even if very small or deemed insignificant, will be described. The EIS then will provide an analysis of the significance of the residual environmental effects that are considered adverse, using guidance described in section 4 of the Agency's reference guide Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects. The EIS will identify the criteria used to assign significance ratings to any predicted adverse effects. 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. The EIS will document the terms used to describe the level of significance.				

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	The following criteria should be used in determining the significance of residual effects: - magnitude; - geographic extent; - duration; - frequency; - reversibility; – ecological and social context; and – existence of environmental standards, guidelines, or objectives for assessing the impact. In assessing significance against these criteria the proponent will, where possible, use 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. 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. 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.				
	All VCs	Section D.2.5.3 Table D.2.5-2	---	---	---
	Air Quality	Table E.1.5-4	CR #1a Air Quality Section 6.6, Table 6.5-1	---	---
	Greenhouse Gas & Climate	Table E.1.5-4	CR #1a Air Quality Table 6.5-1	---	---
	Noise	Table E.2-1	CR #2 Noise Table 6.3-1	SIR1 Q 12.1 – significance of effects now provided	---
	Hydrogeology	Table E.3.6-1	CR #3 Hydrogeology Section 5.6 Table 5.6-1	---	---
	Hydrology	Table E.4.6-1	CR #4 Hydrology Section 6.4 Table 18	---	---
	Surface Water Quality	Table E.5.6-1	CR #5 Water Quality Section 4.4.1.4, 4.2.1.4, 4.3.1.4,	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
			4.4.1.4; Table 18		
	Fisheries / Aquatic Resources	E.6.3	CR #6 Aquatic Resources, Section 4	---	SIR #1-9 responses will be provided in Fish and Aquatic Resources Addendum in Q1 2017. Work Plan to address these information requests have been reviewed and approved by AER and DFO. Final impact ratings to be provided as part of the Addendum.
	Terrain & Soils	Table E.7.6-1	CR #7 Soils & Terrain, Section 7.1.4, 7.2.4, 7.3.4, 7.4.4 Table 7.5-1	---	---
	Vegetation & Wetlands	Table E.8.6-1	CR #8 Vegetation & Wetlands Section 5.1, Table 5.1-1	---	---
	Wildlife	Table E.9.3-3, E.9.4-1	CR #9 – Wildlife Section 5.3.11, Table 5.3-26; Section 5.4.9, Table 5.4-1 Section 6.4, Table 6.4-1	---	---
	Land Use	Table E.10.6-1	CR #10 Land & Resource Use Section 5.2 to 5.8 Table 8.0-1	---	---
	Socio-Economics	Table E.11.6-1	CR #11 Socio-economics Section 4, 5.3.1.2, 6.3.2, 7.3, 8.3.2, 9.3, 10.3.2	SIR1 Q 12.1 – significance of effects now provided	---
	Human Health	Table E.12.4-1	CR #12 Human Health, Section 8 Table 8.0-1	SIR1 Q 12.1 – significance of effects now provided	---
	Historical Resources	Table E.13.6-1	---	SIR1 Q 12.1 – significance of effects now provided	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	Traditional Knowledge and Land Use	H.3.5.4, H.4.5.5, H.5.5.4, H.6.5.4, H.7.5.4, H.9.5.2, H.12.5.5	CR #6 Aquatic Resources Section 5 CR #8 Vegetation & Wetlands, Section 5.1, Table 5.1-1 (See TEK VC) CR #9 – Wildlife Section 5.3.11, Table 5.3-26; Section 5.4.9, Table 5.4-1 Section 6.4, Table 6.4-1 (Several assessed species have traditional value)	---	---
6.6	**Other Effects to Consider**				
6.6.1	**Effects of Potential Accidents of Malfunctions**				
	The failure of certain works caused by human error or exceptional natural events (e.g., flooding, earthquake) could cause major effects. The proponent will, therefore: conduct an analysis of the risks of accidents and malfunctions, determine their effects, and present a preliminary emergency measures	C.9	---	SIR1 Q 13.1 - Risk assessments of seven reasonably potential accidents and malfunctions and their potential effects have been provided in Secton C.9 SIR1 Q14 – ERP information provided in C.9.5.2.2 and C.7.6.3	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	Taking into account the lifespan of different project components, 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 as defined in section 5 of CEAA 2012), the plausible worst case scenarios, and the effects of these scenarios	C.9 Table C.9.10-1 Methodology (C.9.1), Risk Assessment (C.9.2); discussions of seven identified accidents and malfunctions (C.9.3 to C.9.9); summary of risks and potential effects (Table C.9.10-1)	---	SIR1 Q 13.1 – see comment above	---
	This assessment 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/or malfunction events and would potentially result in an adverse environmental effect as defined in section 5 of CEAA 2012.	C.9.3 to C.9.9; C.9.10, Table C.9.10-1	---	SIR1 Q 13.1 – see comment above	---
	The EIS will describe the safeguards that have been established to protect against such occurrences and the contingency and emergency response procedures in place if such events do occur.	C.9.3.2, C.9.4.2, C.9.5.2, C.9.6.2, C.9.7.2, C.9.8.2, C.9.9.2 Design and Operations Safeguards	---	SIR1 Q 13.1 – see comment above	---
6.6.2	**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). These events will be considered in different probability patterns (i.e., 5-year flood vs. 100 year flood). Longer term effects of climate change also will be discussed up to the projected post-closure phase of the project. This discussion will include a description of climate data used.	C.10 E.1.3.5.2, E.1.3.5.3 Effects of climate change on air quality	CR#1a Air Quality, Section 5.14 Climate change	SIR1 Q 15.1, 15.2 – information is provided on effects of local conditions, hazards, and climate change on the Project in C.10	SIR1 Q 36 - potential for induced seismicity that could possibly result from fracking in the Project's vicinity. Information will be provided under separate cover.
	The EIS will provide details of planning, design, and construction strategies intended to minimise the potential environmental effects of the environment on the Project.	C.10 refers to: C.1.2, C.2 to C.6 (design) C.7 (environmental management plans) A.6.4, A.11.4, A.11.5, A.11.6, A.11.7	---	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		(mitigations) F.1.5, F.2.7, F.3.1, F.3.6.2, F.3.6.3.2, F.3.8, F.4.2, F.4.4.4 (C&R Plan)			
6.6.3	**Cumulative Effects Assessment**				
	The proponent will identify and assess the Project's cumulative effects using the approach described in the Agency's Operational Policy Statement entitled *Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012* and the guide entitled *Technical Guidance for Assessing Cumulative Environmental Effects Under the Canadian Environmental Assessment Act*. Cumulative effects are defined as changes to the environment due to the Project combined with the existence of other past, present, and reasonably foreseeable physical activities. Cumulative effects may result if: - implementation of the Project being studied may cause direct residual adverse effects on the valued components, taking into account the application of technically and economically feasible mitigation measures; and, - the same valued components may be affected by other past, present, or reasonably foreseeable physical activities. Valued components that would not be affected by the Project or would be affected positively by the Project can, therefore, be omitted from the cumulative effects assessment. A cumulative effect on an environmental component may, however, be important even if the assessment of the Project's effects on this component reveals that the effects of the Project are minor.			SIR1 Q 16.1 – cumulative effects project inclusion information provided in Section D Table 2.4-2	---
	In its EIS, the proponent will:				
	- identify and provide a rationale for the valued components that will constitute the focus of the cumulative effects assessment, emphasizing this assessment on the VCs most likely to be affected by the Project and other projects and activities. To this end, the proponent must consider, without limiting itself thereto, the following components likely to be affected by the Project:				
	✓ surface water quality in the Crowsnest River, Gold Creek, Blairmore Creek, and associated tributaries;	E.5.4	CR #5 Water Quality Section 4.1.3, 4.2.3, 4.3.3 4.4.3, 4.5.2	SIR1 Q 16.1, 16.2 – cumulative effects information is provided	---
	✓ fish and fish habitat, including westslope cutthroat trout, mountain whitefish, as well as other valued fish species;	E.6.4	CR #6 Aquatic Resources Section 5.0	SIR1 Q 16.1, 16.2 – cumulative effects information will be provided in Fish and Aquatic Resources Addendum in Q1 2017.	---
	✓ migratory birds (including habitat loss and contaminant exposure);	E.9.4 Olive-sided flycatcher	CR #9 Wildlife Section 6.3.1 Olive-sided flycatcher	SIR1 Q 16.1, 16.2 – cumulative effects information provided	---
	✓ species at risk; and	E.9.4	CR #9 Wildlife, Section 6.3.1, Table	SIR1 Q 16.1, 16.2 –	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		Olive-sided flycatcher, little brown myotis and grizzly bear	6.4-1	cumulative effects information provided	
	✓ Aboriginal peoples;	H.2.5, H.2.6, H.3.6, H.4.6, H.5.6, H.6.6, H.7.6, H.9.6, H.12.6 Cumulative effects assessments for Aboriginal groups E.13.4 Historical resources	CR #1a Air Quality Section 6.1 CR #8 Vegetation & Wetlands Section 1.4.6, 4.6.2 CR #9 Wildlife Section 6.3.1, 6.3.3, 6.3.6, Table 6.4-1 American marten, Canada lynx, grizzly bear CR #10 Land Use Table 3.2-1 CR #12 Human Health Section 4.1, 4.2	SIR1 Q 16.1, 16.2 – cumulative effects information provided	---
	Hydrogeology	E.3.4	CR #3 Hydrogeology, Section 6	SIR1 Q 16.1, 16.2 – cumulative effects information provided	---
	Soils and Terrain	E.7.4	CR #7 Soils & Terrain, Section 6.3, 7.1.2, 7.2.2, 7.3.2, 7.4.2	SIR1 Q 16.1, 16.2 – cumulative effects information provided	---
	Land Use	E.10.4	CR #10 Land & Resource Use Section 3.2	SIR1 Q 16.1, 16.2 – cumulative effects information provided	---
	Socio-economic	---	CR #11 Socio-economics, Sections	SIR1 Q 16.1, 16.2 –	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
			2.1.1, 2.1.2 Key issues for identifying VCs; list of VCs	cumulative effects information provided	
	- identify and justify the spatial and temporal boundaries for the cumulative effect assessment for each VC selected. The boundaries for the cumulative effects assessments will generally be different for each VC considered. These cumulative effects boundaries will also generally be larger than the boundaries for the corresponding project effects;				
	All disciplines	D.2.4.3	---	---	---
	✓ surface water quality in the Crowsnest River, Gold Creek, Blairmore Creek, and associated tributaries;	---	CR #5 Water Quality, Section 2.3, 2.4	SIR1 Q 16.1, 16.2 – cumulative effects information provided	---
	✓ fish and fish habitat;	---	CR #6 Aquatic Resources Section 2, 5	SIR1 Q 16.1, 16.2 – cumulative effects information will be provided in Fish and Aquatic Resources Addendum in Q1 2017.	---
	✓ migratory birds;	E.9.9.4	CR #9 Wildlife Section 3.2.1.2, 3.2.1.3	SIR1 Q 16.1, 16.2 – information provided	---
	✓ species at risk; and	E.9.9.4	CR #9 Wildlife Section 3.2.1.2, 3.2.1.3	SIR1 Q 16.1, 16.2 – information provided	---
	✓ Aboriginal peoples;	H.2.3 E.5.1 Surface Water Quality E.8.1, E.8.4 Vegetation E.9.4 Wildlife E.12.1 Human Health	CR #1a Air Quality Section 2.3.1 CR #5 Surface Water Quality Section 2.3.2 CR #6 Aquatic Resources Section 2, 5 CR #8 Vegetation & Wetlands	SIR1 Q 16.1, 16.2 – information provided	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
			Section 2.4.1 CR #9 Wildlife Section 3.2.1.2, 3.2.1.3 American marten, Canada lynx, grizzly bear CR #10 Land Use Section 3.1 CR #12 Human Health, Section 4.3, 4.4		
	Hydrogeology	---	CR #3 Hydrogeology Section 2.4, 6.0	SIR1 Q 16.1, 16.2 – information provided	---
	Soils and terrain	E.7.1, E.7.4	CR #7 Soils & Terrain, Section 2.1.2, 6.1	SIR1 Q 16.1, 16.2 – information provided	---
	Land Use	E.10.1	CR #10 Land & Resource Use, Section 3.1, 3.3, 7.0	SIR1 Q 16.1, 16.2 – information provided	---
	Socio-economics	E.11.1	CR #11 Socio-economics, Section 2.4	SIR1 Q 16.1, 16.2 – information provided	---
	– identify the sources of potential cumulative effects. Specify other projects or activities that have been or that are likely to be carried out that could cause effects on each selected VC within the boundaries defined, and whose effects would act in combination with the residual effects of the Project. This assessment may consider the results of any relevant study conducted by a committee established under section 73 or 74 of CEAA 2012				
	✓ surface water quality in the Crowsnest River, Gold Creek, Blairmore Creek, and associated tributaries;	---	CR #5, Section 2.5, 4.1.3, 4.2.3, 4.3.3 4.4.3, 4.5.3	---	---
	✓ fish and fish habitat;	E.6.4	CR #6, Section 5	---	---
	✓ migratory birds;	---	CR #9 Wildlife, Section 6.1, Table 6.2-1	---	---
	✓ species at risk; and	---	CR #9 Wildlife, Section 6.1, Table 6.2-1	---	---
	✓ Aboriginal peoples;	E.1.4 Air Quality	CR #1a Air Quality, Section 2.1.1	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
		E.12.1 Human Health H.3.6.2, H.4.6.3, H.5.6.2, H.6.6.2, H.7.6.2, H.9.6.2, H.12.6.2	CR #8 Vegetation & Wetlands, Section 2.4.1, Table 2.4-1 CR #9 Wildlife, Section 6.1, Table 6.2-1 CR #10 Land Use, Section 7.0 CR #12 Human Health, Section 4.2		
	Hydrogeology	---	CR #3 Hydrogeology Section 6	---	---
	Soils and terrain	E.7.4	CR #7 Soils & Terrain, Section 6.1	---	---
	Land Use	E.10.4	CR #10 Land & Resource Use, Section 7.0	---	---
	Socio-economics	E.11.4	CR #11 Socio-economics, Section 2.3	---	---
	- describe the mitigation measures that are technically and economically feasible. The proponent shall assess the effectiveness of the measures applied to mitigate the cumulative effects. In cases where measures exist that are beyond the scope of the proponent's responsibility that could be effectively applied to mitigate these effects, the proponent will identify these effects and the parties that have the authority to act. In such cases, the EIS will summarise the discussions that took place with the other parties in order to implement the necessary measures over the long term;				
	✓ surface water quality in the Crowsnest River, Gold Creek, Blairmore Creek, and tributaries;	E.5.5	CR #5 Sections 4.1.1.2, 4.2.1.2, 4.3.1.2, 4.4.1.2 Same as for Application Case	---	---
	✓ fish and fish habitat;	E.6.3.1.1	CR#6, Section 6	---	---
	✓ migratory birds;	E.9.5.1	CR #9 Wildlife, Section 7	---	---

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	✓ species at risk; and	E.6.3.1.1 E.8.5.1 Vegetation & Wetlands E.9.5.1 Wildlife	CR #6, Section 6 CR #8 Vegetation & Wetlands, Section 4.2.6 CR #9 Wildlife, Section 7	---	---
	✓ Aboriginal peoples;	E.1.4.1 Air Quality E.8.5.1 Vegetation & Wetlands E.9.5.1 Wildlife E.12.4 Human health H.3.6.3, H.4.6.3, H.5.6.3, H.6.6.3, H.7.6.3, H.9.6.1, H.12.6.3 Mitigations for potential effects on traditional land and resource use	CR #1a Air Quality, Section 6.6 CR #8 Vegetation & Wetlands, Section 4.6.4.1 CR #12 Human Health, Section 6.4	---	---
	Hydrogeology	---	CR #3 Hydrogeology Section 5.3.3, 5.4.3, 5.5.3	---	---
	Soils and terrain	E.7.5	CR #7 Soils & Terrain, Section 7.1.3, 7.2.3, 7.3.3, 7.4.3 Table 7.5-1	---	---
	Land Use	E.10.5	CR #10 Land & Resource Use Section 6.0	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	Socio-economics	E.11.5	CR #11 Socio-economic, Section 1.2, 5.4, 6.4, 7.4, 8.4, 9.4, 10.4	---	---
	- determine the significance of the cumulative effects; and				
	✓ surface water quality in the Crowsnest River, Gold Creek, Blairmore Creek, and associated tributaries;	E.5.4	CR #5 Water Quality Table 18	---	---
	✓ fish and fish habitat;	E.6.5	CR#6 Aquatic Resources Section 5	---	SIR #1-9 responses will be provided in Fish and Aquatic Resources Addendum in Q1 2017. Work Plan to address these information requests have been reviewed and approved by AER and DFO. Final impact ratings to be provided as part of the Addendum.
	✓ migratory birds;	E.9.4, Table E.9.4-1	CR #9 Wildlife Section 6.3.2, 6.4 Table 6.4-1	---	---
	✓ species at risk; and	E.6.4 E.8.6.1, Table E.8.6-1 Vegetation & Wetlands E.9.4, Table E.9.4-1 Wildlife	CR #6 Aquatic Resources Section 5.0 CR #8 Vegetation & Wetlands Section 4.2.4 Table 5.1-1 CR #9 Wildlife Section 6.3.2, 6.3.3, 6.3.6, 6.4 Table 6.4-1	---	SIR #1-9 responses will be provided in Fish and Aquatic Resources Addendum in Q1 2017. Work Plan to address these information requests have been reviewed and approved by AER and DFO. Final impact ratings to be provided as part of the Addendum.

Table 2A	CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project Cross Reference (Concordance) Table to Location in Application				
Guideline No.	**Guideline Description**	**Section**	**Consultant Report**	**CEAA Conformity SIRs**	**CEAA Technical SIRs**
	✓ Aboriginal peoples;	E.1.5.3, Table E.1.5-2 Air Quality E.8.6.1, Table E.8.6-1 Vegetation & Wetlands E.9.4, Table E.9.4-1 Wildlife E.12.5 Human health H.3.6.3, H.4.6.3, H.5.6.3, H.6.6.3, H.7.6.3, H.9.6.1, H.12.6.3 Cumulative effects on traditional land and resource use	CR #1a Air Quality Table 6.5-1 CR #12 Human Health, Section 6.0, 7.0 Risk assessment results for Application Case; Summary of effects.	---	---
	Hydrogeology	---	CR #3 Hydrogeology Section 6, 5.5-1	---	---
	Soils and terrain	E.7.6; Table E.7.6-1	CR #7 Soils & Terrain, Table 7.5-1	---	---
	Land Use	E.10.6, Table E.10.6-1	CR #10 Land & Resource Use Section 8.0, Table 8.0-1	---	---
	Socio-economics	E.11.6	CR #11 Socio-economic, Sections 5.3.1.3, 6.3.3, 8.3.3, 10.3.3	---	---
	- develop a follow-up program to verify the accuracy of the assessment or to dispel the uncertainty concerning the effectiveness of mitigation measures for certain cumulative effects.				
	✓ surface water quality in the Crowsnest River, Gold Creek, Blairmore Creek, and associated tributaries;	A.11.5.3	CR #5 Water Quality Section 5	---	---
	✓ fish and fish habitat;	E.6.3.1.1	CR#6 Aquatic Resources Section 6.0	---	---
	✓ migratory birds;	A.11.9.3 E.9.5	CR #9 Wildlife Section 7.2 Preliminary wildlife monitoring program	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	✓ species at risk; and	A.11.6.3 A.11.8.3 A.11.9.3 E.6.3.1.1 - Fish E.8.5 Vegetation & Wetlands E.9.5.2 Wildlife	CR#6 Aquatic Resources Section 6.0 Westslope cutthroat trout CR #8 Vegetation & Wetlands Section 4.2.6 Mitigation and monitoring for whitebark pine and limber pine CR #9 Wildlife Section 7.2 Preliminary wildlife monitoring program	---	---
	✓ Aboriginal peoples;	A.11.1.3, E.1.4.2 Air Quality A.11.8.3, E.8.5.2 Vegetation & Wetlands A.11.9.3, E.9.5.2 Wildlife H.3.7, H.4.7, H.5.7, H.6.7, H.7.7, H.9.7, H.12.7 Follow-up and monitoring programs for Aboriginal VCs	CR #1a Air Quality Section 6.5 CR #8 Vegetation & Wetlands Section 4.6.4.2 Monitoring for TEK vegetation resources CR #9 Wildlife Section 7.2 Preliminary wildlife monitoring program	---	---
	Hydrogeology	A.11.3.3 E.3.5.2	CR#3 Hydrogeology Section 7.1	---	---
	Soils and terrain	A.11.7.3 E.7.5.2	CR #7 Soils & Terrain, Sections 7.1.3, 7.2.3, 7.3.3, 7.4.3	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
		Section F C&R Plan, F.3.8.3 Monitoring Focus			
	Land Use	A.11.10.3 E.10.5	CR#10 Land & Resource Use Section 6.0	---	---
	Socio-economics	A.11.11.3 E.11.5	CR#11 Socio-economic Section 7.4, 9.4	---	---
	The proponent is encouraged to consult with key stakeholders prior to finalizing the choice of VCs and the appropriate boundaries to assess cumulative effects.	G (Public Engagement) H.1.1.4.3 (Aboriginal Consultation)	CR #8 Vegetation Section 1.4.6, 3.6 CR #9 Wildlife Section 3.2.3 CR #10 Land & Resource Use Section 3.2	SIR1 Q 4.1 and Q 5 – VC selection information has been provided	---
7	**SUMMARY OF ENVIRONMENTAL EFFECTS ASSESSMENT**				
	The EIS will contain a table summarising the following key information: - potential environmental effects; - proposed mitigation measures to address the effects identified above; and - potential residual effects and the significance of the residual environmental effects.				
	The summary table will be used in the EA Report prepared by the Agency. An example of a format for the key summary table is provided in Appendix 1 of this document. In a second table, the EIS will summarise all key mitigation measures and commitments made by the proponent which will more specifically mitigate any significant adverse effects of the Project on valued components (*i.e.*, those measures that are essential to ensure that the Project will not result in significant adverse environmental effects).	Appendix 2B – summary of effects on CEAA-specific VCs Appendix 2C – summary of effects on other VCs Appendix 2D – mitigations and commitments	---	SIR1 Q 17.1 and 17.2 – information included in Appendix 2B, 2C, 2D SIR1 Q 18.3 – information provided in Appendix 2D	---
8	**FOLLOW-UP AND MONITORING PROGRAMS**				

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	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. The goal of a monitoring program is 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.				
8.1	Follow-up Program	A.11	---	SIR1 Q 18.2 – followup program details provided in A.11	---
	The duration of the follow-up program shall be as long as required for the environment to regain its equilibrium and to evaluate the effectiveness of the mitigation measures. The EIS shall present a preliminary follow-up program in particular for areas where scientific uncertainty exists in the prediction of effects. This program shall include:				
	- objectives of the follow-up program and the VCs targeted by the program;	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3, A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3	---	---	---
	- list of elements requiring follow-up;	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3, A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3	---	---	---
	- number of follow-up studies planned as well as their main characteristics (list of the parameters to be measured, planned implementation timetable, etc.);	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3, A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3	---	---	---
	- intervention mechanism used in the event that an unexpected deterioration of the environment is observed;	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3, A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3	---	---	---
	- mechanism to disseminate follow-up results among the concerned populations;	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3, A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3	---	---	---
	- accessibility and sharing of data for the general population;	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3, A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3	---	---	---
	- opportunity for the proponent to take advantage of the participation of Aboriginal groups and stakeholders on the affected territory, during the	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3,	---	---	---

Table 2A CEAA Guidelines for the Preparation of Environmental Impact Statement for Benga Mining Limited (Benga Mining) Proposed Grassy Mountain Coal Project
Cross Reference (Concordance) Table to Location in Application

Guideline No.	Guideline Description	Section	Consultant Report	CEAA Conformity SIRs	CEAA Technical SIRs
	implementation of the program; and	A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3			
	- involvement of local and regional organizations in the design, implementation, and evaluation of the follow-up results as well as any updates, including a communication mechanism between these organizations and the proponent.	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3, A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3	---	---	---
8.2	**MONITORING**				
	The proponent will prepare an environmental monitoring program for all phases of the Project. This program will help ensure that the Project is implemented as proposed, that the mitigation or compensation measures proposed to minimise the Project's environmental effects are effectively implemented, and that the conditions set at the time of the Project's authorisation and the requirements pertaining to the relevant laws and regulations are met. The monitoring program will also make it possible to check the proper operation of works, equipment, and facilities. If necessary, the program will help reorient the work and possibly make improvements at the time of construction and implementation of the various elements of the Project. Specifically, the EIS shall present an outline of the preliminary environmental monitoring program, including the:				
	- identification of the interventions that pose risks to one or more of the components and the measures and means planned to protect the environment;	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3, A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3	---	---	---
	- description of the characteristics of the monitoring program where foreseeable (e.g., location of interventions, planned protocols, list of measured parameters, analytical methods employed, schedule, human and financial resources required);	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3, A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3	---	---	---
	- description of the proponent's intervention mechanisms in the event of the observation of non-compliance with the legal and environmental requirements or with the obligations imposed on contractors by the environmental provisions of their contracts;	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3, A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3	---	---	SIR1 Q 30 – additional information on monitoring parameters and mitigation triggers provided in CR #3 Section 7.1, 7.2
	- guidelines for preparing monitoring reports (number, content, frequency, format) that will be sent to the authorities concerned; and	A.11.1.3, A.11.2.3, A.11.3.3, A.11.4.3, A.11.5.3, A.11.6.3, A.11.7.3, A.11.8.3, A.11.9.3, A.11.10.1, A.11.11.1, A.11.12.1, A.11.13.3	---	---	---
	- monitoring and management practices and procedures to be applied during all phases of the Project in relation to selenium releases and cumulative selenium loading. This may also include a description of how these monitoring and management practices may be integrated into and influence any local or regional water quality plans.	Section A.11.4.3, A.11.5.3, A.11.6.3 Section C.5, C.8 Water management; Geochemistry and selenium management	---	---	---

Appendix 2b

Impact Ratings for CEAA Valued Components

Table 2B-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Federal Jurisdiction	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Ecological/ Social Context	Significance
Migratory Birds	5(1)(a)(iii)	Land clearing and physical disturbance of landscape	Habitat loss & connectivity	Key measures include: • planning vegetation clearing outside of the breeding bird period (April 15 to August 31) characteristic of the region, • conducting pre-disturbance nest searches • implementing an effective conservation and reclamation plan that promotes the development of habitats required for migratory birds. • should Environment Canada have other requirements (*e.g.*, in beneficial management practices or species recovery strategies), Benga will work with Environment Canada to ensure those mitigation measures are also implemented Many of the Project effects associated with wildlife habitat loss will be minimized through implementation of the Project's reclamation plan. The summary of the reclamation plan mitigation recommendations for wildlife and wildlife habitat reclamation was provided in CR#9 Wildlife Sections 7.1.3 and 7.1.4.	Negative	Moderate	Local	Extended	Continuous	Long-term	NA	Not significant
			Mortality		Negative	Low	Local	Long	Isolated	Short-term	NA	Not significant
			Reduced abundance		Negative	Low	Local	Long	Continuous	Long-term	NA	Not significant
		Operations (sensory disturbance)	Habitat loss & connectivity	• Noise mitigation • Speed limit enforcement • planning vegetation clearing outside of the breeding bird period (April 15 to August 31) characteristic of the region • as the presence of artificial lighting can potentially affect bird use of nearby habitats, Benga has developed a visual impact mitigation plan that reduces stray and non-essential artificial lighting to minimize wildlife effects and that will comply with OH&S safety requirements • develop and implement procedures to clear blasting areas of birds prior to blasting • to mitigate the potential effects of sensory disturbance (acoustic and visual) on effective habitat availability in the southeast portion of the Gold Creek valley, Benga will install and maintain a 15-m tall earth berm along the eastern edge of the south disposal area • should Environment Canada have other requirements (e.g., in beneficial management practices or species recovery strategies), Benga will work with Environment Canada to ensure those mitigation measures are also implemented	Negative	Moderate	Local	Extended	Continuous	Long-term	NA	Not significant
			Reduced abundance		Negative	Low	Local	Long	Continuous	Long-term	NA	Not significant
		Operations - blasting	Mortality	• develop and implement procedures to clear blasting areas of birds prior to blasting	Negative	Moderate	Local	Extended	Continuous	Long-term	NA	Not significant
			Reduced abundance		Negative	Low	Local	Long	Continuous	Long-term	NA	Not significant
		Construction & operations - vehicle & building collisions	Mortality	• Speed limit enforcement • bird collisions with buildings will be mitigated by placing visual markers on windows, and collisions with the proposed power line will be mitigated by installing large 'floats' or other markers	Negative	Moderate	Local	Extended	Continuous	Long-term	NA	Not significant
			Reduced abundance		Negative	Low	Local	Long	Continuous	Long-term	NA	Not significant
Species at Risk	SARA 79											
Olive-sided flycatcher		Land clearing and physical disturbance	Habitat loss & connectivity	• all relevant mitigation meansures stated for migratory birds, above • in light of the final Recovery Strategy for this species having been released in 2016, Benga will consult with Environment Canada to develop a beneficial management practice for this species in the LSA	Negative	Moderate	Local	Extended	Continuous	Long-term	NA	Not significant
			Mortality		Neutral	Low	Local	Long	Isolated	Short-term	NA	Not significant

Table 2B-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Federal Jurisdiction	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Ecological/ Social Context	Significance
		of landscape	Reduced abundance	• should Environment Canada have other requirements (*e.g.*, in beneficial management practices or species recovery strategies), Benga will work with Environment Canada to ensure those mitigation measures are also implemented	Negative	Low	Local	Long	Continuous	Long-term	NA	Not significant
		Operations (sensory disturbance)	Habitat loss & connectivity		Negative	Moderate	Local	Extended	Continuous	Long-term	NA	Not significant
			Reduced abundance		Negative	Low	Local	Long	Continuous	Long-term	NA	Not significant
		Operations - blasting	Mortality		Negative	Moderate	Local	Extended	Continuous	Long-term	NA	Not significant
			Reduced abundance		Negative	Low	Local	Long	Continuous	Long-term	NA	Not significant
		Construction & operations - vehicle & building collisions	Mortality		Neutral	Low	Local	Long	Isolated	Short-term	NA	Not significant
			Reduced abundance		Negative	Low	Local	Long	Continuous	Long-term	NA	Not significant
Little brown myotis	SARA 79	Land clearing and physical disturbance of landscape	Habitat loss	• time clearing outside of summer breeding/rearing window (falls into breeding bird window) • avoid direct and indirect impacts to known, primary maternity roosts should any such roosts be located/identified • prior to removal or alteration of historic mine shafts and infrastructure, conduct roost searches and fall swarming surveys (which are believed to be correlated with hibernacula) and consult with Environment Canada should hibernacula or roosts be located • ensure reclaimed areas promote the re-establishment of woody species and wetland vegetation and are on a trajectory for forest and wetland establishment; and • preserve remnant forest patches within the development areas where feasible to provide habitat, habitat connectivity and roost sites for bat species. • in light of the Recovery Strategy for this species having been released in December 2015, Benga will consult with Environment Canada to develop a species-specific mitigation plan for this species in the LSA	Negative	Moderate	Local	Extended	Continuous	Long-term	NA	Not significant
			Habitat connectivity and movement		Neutral	Low	Local	Long	Continuous	Short-term	NA	Not significant
			Mortality		Negative	Low	Local	Long	Occasional	Short-term	NA	Not significant
			Reduced abundance		Negative	Low	Local	Long	Continuous	Long-term	NA	Not significant
		Operations (sensory disturbance)	Habitat loss	• implement a visual impact mitigation plan that reduces stray and non-essential artificial lighting to minimize wildlife effects and that will comply with OH&S safety requirements; • to mitigate the potential effects of sensory disturbance (acoustic and visual) on effective habitat availability in the southeast portion of the Gold Creek valley, Benga will install and maintain a 15-m tall earth berm along the eastern edge of the south disposal area • in light of the Recovery Strategy for this species having been released in December 2015, Benga will consult with Environment Canada to develop a species-specific mitigation plan for this species in the LSA	Negative	Moderate	Local	Extended	Continuous	Long-term	NA	Not significant
			Habitat connectivity and movement		Neutral	Low	Local	Long	Continuous	Short-term	NA	Not significant
		Construction & operations	Mortality	• in light of the Recovery Strategy for this species having been released in December 2015, Benga will consult with Environment Canada to develop a species-specific collision mitigation plan for	Negative	Low	Local	Long	Occasional	Short-term	NA	Not significant

Table 2B-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Federal Jurisdiction	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Ecological/ Social Context	Significance
		- vehicle & building collisions	Reduced abundance	this species in the LSA, if required	Negative	Low	Local	Long	Continuous	Long-term	NA	Not significant
Common nighthawk	SARA 79	Land clearing and physical disturbance of landscape Operations (sensory disturbance)	Overall impact	• all relevant mitigation measures stated for migratory birds, above, • implement a visual impact mitigation plan that reduces stray and non-essential artificial lighting to minimize wildlife effects and that will comply with OH&S safety requirements; • in light of the final Recovery Strategy for this species having been released in 2016, Benga will consult with Environment Canada to develop a beneficial management practice for this species in the LSA	Negative	Low	Local	Long	Continuous	Short-term	NA	Not significant
Short-eared owl	SARA 79	Land clearing and physical disturbance of landscape Operations (sensory disturbance)	Overall impact	• all relevant mitigation measures stated for migratory birds, above, • implement a visual impact mitigation plan that reduces stray and non-essential artificial lighting to minimize wildlife effects and that will comply with OH&S safety requirements; • Benga will consult with Environment Canada to determine whether a beneficial management practice or other strategy is recommended for this species in the LSA	Negative	Low	Local	Long	Continuous	Short-term	NA	Not significant
Whitebark pine	SARA 79	Land clearing and physical disturbance of landscape	Mortality	• avoiding disturbing areas with whitebark pine • adhering to the mitigation approaches outlined in the Alberta Whitebark Pine Recovery Plan Conditions and strategies for establishing whitebark pine during reclamation include: • identification of high light, low competition sites; • introduction of white pine blister rust resistant strains during reclamation • planting in pure stands or patches to avoid competition from other trees • avoiding planting in swales and frost pockets; • creation of microsites for seedling establishment (rocks, stumps or other coarse woody debris); • use of recommended spacing to avoid interspecies competition; and • planting seedlings in the fall to avoid hot dry summer conditions.	Negative	High	Local	Extended	Continuous	Long-term	NA	Not significant
Fish and Fish Habitat	**5(1)(a)(i) 5(1)(a)(ii) / SARA 79 (westslope cutthroat trout)**	**Operation and reclamation**	**Habitat loss, fragmentation from changes in flow regime Fish Health Angling Pressure**	**At the time of the Project's environmental impact assessment (EIA) submission of August 2016, fish and aquatics field work for a detailed Instream Flow Needs (IFN) study was still being collected. Based on the sensitivity of both watercourses, and the lack of historical or detailed (IFN level) data, as part of ongoing discussions with the Alberta Energy Regulator (AER), the Canadian Environmental Assessment Agency (the Agency) and the Department of Fisheries and Oceans (DFO) *Species at Risk Act* (SARA) specialists, it was agreed that once the entire 2016 IFN baseline field program was completed, a more comprehensive and completed Fish and Aquatic Resources assessment can be provided to the AER and CEAA as an addendum to the EIA. This addendum will provide final mitigations and evaluation of significance rating for potential Project impacts on fish and aquatic resources.**	---	---	---	---	---	---	---	---

Table 2B-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Federal Jurisdiction	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Ecological/ Social Context	Significance
Aboriginal Peoples												
Aboriginal health and socio-economics	5(1)(c)(i)	Construction and operations	Health – air quality	• The mine fleet is regularly upgraded and by Year 14, equipment will be newer and more efficient than assumed in emission estimation. Exhaust emissions from the U.S. EPA Tier 4 (2010) standards were used in Project emission estimates and it is likely that off-road standards will be more stringent by Year 14. • water is systematically applied to haul roads and to the plant access road to minimize dust using a water truck dedicated to this purpose. An emission control efficiency of 80% during the summer months is expected from this measure. • Snow cover is retained on the road as a mitigative measure during the winter months, unless the cover would compromise the safety of vehicle operations. Winter ground is frozen and, since the soil and overburden have elevated moisture contents, there is a reduction of dust emissions at that time. • Gravel or crushed rock is used on the haul roads. Gravel is observed to produce less dust than clay and sandy surfaces. • Use of a grader to maintain the active surface of the road. This procedure is expected to reduce the effective silt content of the portion of the road where the wheels of the haul trucks travel. The grader blade would tend to move the silt particles to the inactive portion (side) of the road. • The mined areas are reclaimed promptly and backfilled with overburden and soil from pre-strip areas, and then covered by vegetation which reduces windblown fugitive dust emissions from the barren land. • Trees and bushes will be preserved around mines and plant, effectively trapping dust emissions from mining activities and reducing dust concentrations further from mining activities. • The two coal processing plant (CPP) modules will be contained within an enclosed area and all coal material handling will be via covered conveyors. • Dust generation from transferring coal from the conveyor to the stock pile will be minimized by the use of luffing stackers (those that can lower and raise their boom) which will minimize the drop height and drop time of the coal. • Fugitive dust generation will be minimized at the rail load-out, with full cladding on the sides of the load-out structure to create a wind shelter, and with the movable discharge chute of the bin located as close as practical to the coal within the rail cars. Benga commits to developing a more detailed monitoring program when the mine plan is more advanced than it is now, and commits to reviewing its adequacy periodically in future. Benga will provide the draft monitoring plan to AER 6 months before planned start-up and to implement the program 3 months or more prior to the beginning of construction.	Neutral	Nil	NA	NA	NA	NA	NA	Not significant
		Construction and operations	Health – water quality	Benga will develop and implement a water management plan, environmental management plan, and Gold Creek Stewardship Program to effectively prevent Project effects on turbidity and associated water quality constituents or reduce them to acceptable levels. Benga will: • establish a series of collection ditches, sumps, pumps and settling ponds to manage all surface water on the mine site. Surface water runoff from mining areas, haul roads, overburden disposal areas and any other disturbed areas as well as groundwater runoff from the pit will be collected	Neutral	Nil	NA	NA	NA	NA	NA	Not significant

Table 2B-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Federal Jurisdiction	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Ecological/ Social Context	Significance
				and directed to settling ponds for treatment and or will be pumped to the raw water pond for storage and use in the coal cleaning process. Once suspended solids are settled, water will be released to Blairmore Creek and Gold Creek; • implement appropriate slope grading and stabilization techniques to reduce erosion risk. Slopes will be contoured to produce moderate slope angles to reduce erosion risk. Other stabilization techniques used to control erosion include: ditching above the cutslope to channel surface runoff away from the cutslope, leaving buffer (vegetation) strips between the construction site and a watercourse, and placing large rock rip rap to stabilize slopes; • implement temporary measures to control erosion before vegetation cover is re-established, including: diversion ditches, drainage control, check dams, sediment ponds, sumps, and mulches; • progressively reclaim to reduce the amount of disturbed area at any given time. • whenever possible, construction activities in close proximity to watercourses will be carried out during periods of lowest potential impact, typically during the winter months. A 10- m undisturbed buffer zone, maintaining existing vegetation, will be left between development activities and Blairmore Creek to the west and Gold Creek to the east; • comply with the Alberta Code of Practice for Watercourse Crossings and associated guidelines; • implement construction techniques that protect the integrity of the streams as well as the quality of water; • where necessary, interim erosion/sediment control measures will be utilized until long-term protection can be effectively implemented. • implement a plan to attenuate selenium and nitrite and nitrate concentrations in process water before release to the receiving environment • develop and implement appropriate design features (*e.g.*, berms and containment areas around potential sources), best management practices, and spill response plan to minimize potential for spills that might adversely affect surface water quality • collect domestic wastewater in storage tanks and transferred to the wastewater treatment facility, test treated effluent to ensure that its quality meets or exceeds the limits for treated, and discharge wastewater as specified in the EPEA approval.								
		Construction and operations	Health – country foods	Mitigations relevant to country foods include: • mitigations for air quality (above) • mitigations for surface water quality (above) • access control policy	Neutral	Nil	NA	NA	NA	NA	NA	Not significant
		Construction and operations	Health – noise	Mitigations relevant to noise include: • route the haul trucks (conveying waste rock and coal) along the western slope of the south disposal area such that the south disposal area itself provides noise shielding between the operating equipment and the residential receptors to the east; and, • install and maintain a 15 m tall earthen berm along the eastern edge of the south disposal area. The earthen berm will be constructed and maintained during the day-time (when required) and the 15 m earthen berm will increase in overall elevation as the height of the south disposal area increases. • blasting to occur only on weekdays during typical day-time hours; • minimal blasting during cloud cover; and	Neutral	Nil	NA	NA	NA	NA	NA	Not significant

Table 2B-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Federal Jurisdiction	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Ecological/ Social Context	Significance
				• blasting to be limited to smaller more localized blasts, which reduces the amount of explosives used at any one time. • If, during active operations at the mine, concerns are raised by local residents, specific noise mitigation measures can be put in place for light duty vehicle back-up alarms. For example, the alarm noise can be replaced during night-time activities with a flashing light, which provides the necessary safety warning while eliminating the noise. During the day-time there are directional back-up alarms available that focus the noise to areas directly behind the vehicle and minimize the omni-directional noise radiation or back-up alarms with varying tones which provide the necessary safety warnings while minimizing the impact on receptors further away. • There will be on-site maintenance shops to ensure that equipment is kept in good repair, to mitigate operational sound levels. When new equipment is purchased, the noise levels of the equipment will be considered during the procurement process. • monitoring low frequency tonal noise (e.g., from mining equipment and rail loadout activity) during Project operations, and following up as required by AER *Directive 038*.								
		Construction and operations	Socio-economics – commercial activity, forestry and logging, recreational use	Benga recognizes the effects of resource development on traditional land use and culture. The proponent will therefore carry out the following actions to enhance the positive and minimize the adverse effects of its Project: • Provision of employment and economic opportunities • Aboriginal Access Management Plan and access control policy • progressive reclamation, giving consideration to traditional land use, where possible; • compensate trappers directly affected by the Project, according to industry standards; • promote cultural diversity awareness to Benga's employees and contractors regarding respect for traditional resource users; • support specific community projects, such as elder and youth programs, where appropriate; and • ongoing consultation with Aboriginal communities in the region to ensure their concerns with respect to traditional land use and culture are continually considered during Project planning and operation. • all relevant mitigations proposed to reduce the effects on wildlife and wildlife habitat / fragmentation • all relevant mitigations for air quality (above) • implementation of a re-vegetation program which will aim at the re-establishment of vegetation communities, such as closed conifer forests, mature mixed forests, native upland herbaceous grasslands and treed swamps, common to the pre-disturbed landscape that will support valued vegetation • implementation of a re-vegetation program that utilizes native vegetation species and does not include agronomic invasive species • provision of opportunities to identify and collect suitable lodge pole pine for TU ceremonies • where practicable, utilize locally collected seed to preserve the legacy of species and of place	Positive	NA	NA	NA	NA	NA	NA	Not significant
Aboriginal physical and cultural heritage	ü 5(1)(c)(ii)	Land clearing and physical disturbance	Damage or disturbance of valued sites; access to	• Site-specific mitigations for historical resources identified in the Historical Resources Impact Assessment; • Aboriginal Access Management Plan; • Cultural Site Discovery Contingency Plan;	Negative	Low	Local	Long-term	Regular	Not reversible (if not	Sensitive	Not significant

Table 2B-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Federal Jurisdiction	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Ecological/ Social Context	Significance
		of landscape.	valued sites; cultural value	• ongoing Aboriginal consultation						mitigated)		
Traditional land and resource use [1]	ü 5(1)(c)(iii)	Land clearing and physical disturbance of landscape	Hunting (KN, PN, SN, SNN, TTN, SCN) – species, habitats, access	• Aboriginal Access Management Plan and access control policy • progressive reclamation, giving consideration to traditional land use, where possible; • compensate trappers directly affected by the Project, according to industry standards; • ongoing consultation with Aboriginal communities • all relevant mitigations proposed to reduce the effects on wildlife and wildlife habitat / fragmentation • all relevant mitigations for air quality (above) • all relevant mitigations for surface water quality (above) • all relevant mitigations for noise (above) • implementation of a re-vegetation program which will aim at the re-establishment of vegetation communities, such as closed conifer forests, mature mixed forests, native upland herbaceous grasslands and treed swamps, common to the pre-disturbed landscape that will support valued vegetation	Negative	Low	Local	Short-term	Continuous	Reversible	Resilient	Not significant
			Trapping (SCN) – species, habitats, access									
			Plant gathering (KN, PN, SN, SNN, TTN, SCN) – use, access, harvesting	• Aboriginal Access Management Plan and access control policy • provision of opportunities to identify and collect suitable lodge pole pine for TU ceremonies • progressive reclamation, giving consideration to traditional land use, where possible; • ongoing consultation with Aboriginal communities in the region to ensure their concerns with respect to traditional land use and culture are continually considered during Project planning and operation. • all relevant mitigations proposed to reduce the effects on wildlife habitat • implementation of a re-vegetation program that will aim to re-establish vegetation communities, such as closed conifer forests, mature mixed forests, native upland herbaceous grasslands and treed swamps, common to the pre-disturbed landscape that will support valued vegetation • implementation of a re-vegetation program that utilizes native vegetation species and does not include agronomic invasive species • where practicable, utilize locally collected seed to preserve the legacy of species and of place	Negative	Moderate	Local	Long-term	Continuous	Reversible	Resilient	Not significant
			Trails and travelways (PN, SCN) – use and access, disturbance	• Aboriginal Access Management Plan and access control policy • ongoing Aboriginal consultation • relevant site-specific mitigations stated in the Historical Resources Impact Assessment • all relevant mitigations indicated in the Conservation and Reclamation Plan • promote cultural diversity awareness to Benga's employees and contractors regarding respect for traditional resource users;	Negative	Moderate	Local	Long-term	Continuous	Long-term	Resilient	Not significant
		Construction and operations	Hunting (KN, PN, SN, SNN, TTN, SCN) – species, habitats, access	Same mitigations as for land clearance and physical disturbance - hunting and trapping, above	Negative	Low	Local	Short-term	Continuous	Reversible	Resilient	Not significant

Table 2B-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Federal Jurisdiction	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Ecological/ Social Context	Significance
			Trapping (SCN) – species, habitats, access									
			Fishing (SCN) – species, habitats, access	• refer to fish and fish habitat mitigations, above • refer to Aboriginal health - water quality mitigations, above • Aboriginal Access Management Plan • access control policy • ongoing Aboriginal consultation	Negative	Low	Local	Short-term	Continuous	Reversible	Resilient	Not significant
			Trails and travelways (PN, SCN) – use and access, disturbance	• Aboriginal Access Management Plan and access control policy • ongoing Aboriginal consultation • relevant site-specific mitigations stated in the Historical Resources Impact Assessment • all relevant mitigations indicated in the Conservation and Reclamation Plan • promote cultural diversity awareness to Benga's employees and contractors regarding respect for traditional resource users;	Neutral	Nil	Local	Extended	Continuous	Long-term	Resilient	Not significant
Structure, site or thing of historical, archaeological, paleontological, architectural significance	ü 5(1)(c)(iv)	Land clearing and physical disturbance of landscape	Disturbance, damage, loss of sites	• access control policy • ongoing Aboriginal consultation • relevant site-specific mitigations stated in the Historical Resources Impact Assessment • promote cultural diversity awareness to Benga's employees and contractors regarding respect for structures, sites, or other features with traditional significance	Neutral	Nil	NA	NA	NA	NA	NA	Not significant
Other Identified VCs												
Hunting, recreational and commercial fishing, trapping, gathering, outdoor recreation, use of seasonal cabins, outfitters;		Construction and operations	Reduced access, reduced abundance of target species	Access Control Policy	Neutral	Nil	Local	Extended	Continuous	Long-term	Resilient	Not significant
Use of waterways and water bodies		Construction and operations	Reduced access	Access Control Policy							Resilient	
Permanent, seasonal, or temporary residences or camps;		Construction and operations	Reduced access; disturbance, damage, loss of sites	Access Control Policy							Resilient	
Health and socio-economic		Construction and	same as for Aboriginal	Benga is committed to following through on a number of initiatives to both mitigate the social infrastructure effects of the Project and to support its role as a good corporate citizen in the	Neutral	Nil	NA	NA	NA	NA	NA	Not

Table 2B-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Federal Jurisdiction	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Ecological/ Social Context	Significance
conditions, including the functioning and health of the socio-economic environment, encompassing a broad range of matters that affect communities in the study area in a way that recognises interrelationships, system functions and vulnerabilities		operations	health	region. Specifically, Benga will: •Put in place project-related measures to mitigate effects on regional social infrastructure, including: - developing and implementing specific policies regarding employee health and safety and emergency response ; - maintaining explicit and enforced workplace policies with regards to alcohol and drug use, and illegal activities; and - providing employees with access to the company's confidential employee assistance plan, which provides support for families and individuals who may experience difficulty dealing with personal, family, or work-life issues that can affect one's health and well-being. • Continue supporting local programs and initiatives through both financial and in-kind contributions, where appropriate. • Cooperate with service providers (*e.g.* health, social, education), government, and other industrial operators in the region to assist in addressing effects of its project and resource development in general by: - communicating its development and operational plans with the appropriate agencies; and - working with the provincial and municipal governments on the implementation of relevant planning initiatives and coordination of emergency response procedures, where appropriate. In addition, Benga is committed to continuous monitoring of project effects and associated mitigation measures *via* Benga's engagement with regional and provincial stakeholders. The results of this monitoring will be reported as part of ongoing community consultation and will help inform future project-related responses through open houses, newsletters, town hall meetings and individual meetings with local groups.								significant
			same as for Aboriginal socio-economics		Positive	NA	NA	NA	NA	NA	NA	NA
Physical and cultural heritage, including structures, sites, or things of historical, archaeological, paleontological, or architectural significance.		Land clearing and physical disturbance of landscape	Disturbance, damage, loss of sites	• access control policy • relevant site-specific mitigations stated in the Historical Resources Impact Assessment	Neutral	Nil	NA	NA	NA	NA	NA	Not significant

[1] KN – Blood Tribe (Kainai Nation), PN – Piikani Nation, SN – Siksika Nation, SNN – Stoney Nakoda Nation, TTN – Tsuu T'ina Nation, SCN – Samson Cree Nation

Appendix 2c

Impact Ratings for Other Valued Components

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
Air Quality											
NO2	Construction and operations	Human health effects	• the mine fleet is regularly upgraded and by Year 19, equipment will be newer and more efficient than assumed in emission estimation. Exhaust emissions from the U.S. EPA Tier 4 (2010) standards were used in Project emission estimates and it is likely that off-road standards will be more stringent by Year 19; • water is systematically applied to haul roads and to the plant access road to minimize dust using a water truck dedicated to this purpose. An emission control efficiency of 80% during the summer months is expected from this measure; • snow cover is retained on the road as a mitigative measure during the winter months, unless the cover would compromise the safety of vehicle operations. Winter ground is frozen and, since the soil and overburden have elevated moisture contents, there is a reduction of dust emissions at that time; • gravel or crushed rock is used on the haul roads. Gravel is observed to produce less dust than clay and sandy surfaces; • use of a grader to maintain the active surface of the road. This procedure is expected to reduce the effective silt content of the portion of the road where the wheels of the haul trucks travel. The grader blade would tend to move the silt particles	Negative	Moderate	Local	Medium	Continuous	Short-term	High	Not Significant
SO2	Construction and operations	Human health and vegetation effects		Negative	Moderate	Local	Medium	Continuous	Short-term	High	Not Significant
PM2.5	Construction and operations	Human health effects and visibility impairment		Negative	Moderate	Local	Medium	Continuous	Short-term	High	Not Significant
TSP	Construction and operations	Nuisance effects		Negative	High	Local	Medium	Continuous	Short-term	High	Not Significant
CO	Construction and operations	Human health effects		Negative	Moderate	Local	Medium	Continuous	Short-term	High	Not Significant
PAI Deposition	Construction and operations	Acidification of sensitive soils, water bodies and vegetation		Negative	Low	Local	Medium	Continuous	Short-term	Medium	Not Significant
Nitrogen Deposition	Construction and operations	Eutrophication of sensitive ecosystems		Negative	Low	Local	Medium	Continuous	Short-term	Medium	Not Significant
Particulate Deposition	Construction and operations	Nuisance effects		Negative	Moderate	Local	Medium	Continuous	Short-term	Medium	Not Significant
Ozone	Construction and operations	Human health effects		Negative	Low	Regional	Medium	Continuous	Short-term	High	Not Significant
VOC, PAH, Metals	Construction and operations	Human health effects		Negative	Low	Local	Medium	Continuous	Short-term	Medium	Not Significant
Odour	Construction and operations	Nuisance effects		Negative	High	Local	Medium	Continuous	Short-term	Medium	Not Significant
Greenhouse Gas	Construction and operations	Potential ecological effects		Negative	Low	Regional	Long	Continuous	Long-term	Medium	Not Significant
Lighting	Construction and operations	Nuisance effects		Negative	Low	Local	Medium	Periodic (night time)	Long-term	High	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			to the inactive portion (side) of the road or cover the active portion with coarser material; • the mined areas are reclaimed promptly and backfilled with overburden and soil from pre-strip areas, and then covered by vegetation which reduces windblown fugitive dust emissions from exposed land; • trees and bushes will be preserved around mines and plant, because they effectively trap dust emissions from mining activities and reduce dust concentrations farther from mining activities; • the coal processing plant module will be contained within an enclosed area and all coal material handling will be via covered conveyors; • dust generation from transferring coal from the conveyor to the stock pile will be minimized by the use of luffing stackers (those that can lower and raise their boom) which will minimize the drop height and drop time of the coal; and • fugitive dust generation will be minimized at the rail load-out, with full cladding on the sides of the load-out structure to create a wind shelter, and with the movable discharge chute of the bin located as close as practical to the coal within the rail cars. • mitigation measures for NOx emissions include the use of Tier 4 engines in heavy duty mine equipment. Benga will also investigate alternative ANFO								

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			formulations that reduce NOx emissions during blasting.								
Noise											
Ambient noise	Construction and operations	Nuisance effects	• route the haul trucks (conveying waste rock and coal) along the western slope of the south disposal area such that the south disposal area itself provides noise shielding between the operating equipment and the residential receptors to the east; and, • install and maintain a 15 m tall earthen berm along the eastern edge of the south disposal area. The earthen berm will be constructed and maintained during the day-time (when required) and the 15 m earthen berm will increase in overall elevation as the height of the south disposal area increases. • blasting to occur only on weekdays during typical day-time hours; • minimal blasting during cloud cover; and • blasting to be limited to smaller more localized blasts, which reduces the amount of explosives used at any one time. • if, during active operations at the mine, concerns are raised by local residents, specific noise mitigation measures can be put in place (e.g., flashing light instead of backup alarm at night, directional backup alarms).	Negative	Moderate	Local	Long	Continuous	Short-tern	Medium	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
Hydrogeology											
Bedrock aquifers	Pit dewatering	Reduced water quantity	• Effects to bedrock aquifers are predicted to be localized such that no mitigation measures are required. No impacts are predicted at the water wells, therefore no mitigation is proposed. Specific to watercourses' base flow reduction, effect assessment and mitigation options are discussed in the Hydrology, Surface Water Quality, and Aquatics Resources reports (CR #4, CR #5, CR #6, respectively). • Mitigation measures on the effect of mine spoil on groundwater quality will include the development of a management plan as described in Section C and CR # 5. • Mitigation measures for minimizing or preventing adverse impacts on shallow groundwater quality include industry-standard operating practices, preparedness for upset conditions and the appropriate management of upset conditions.	Negative	Low	Local	Residual	Continuous	Irreversible	High	Not Significant
	Mining operations	Reduced water quality		Negative	Low	Local	Long	Continuous	Long-term	Medium	Not Significant
	Surface facilities (operations)	Reduced water quality		Negative	Moderate	Local	Long	Occasional	Short-term	Medium	Not Significant
Discharge to surface water bodies	Pit dewatering	Reduced water quantity		Impacts presented in Hydrology and Surface Water Quality sections.							
	Mining operations	Reduced water quality									
Water wells	Pit dewatering	Reduced water quantity		Neutral	Nil	Local	N/A	N/A	N/A	Low	Not Significant
	Mining operations	Reduced water quality		Neutral	Nil	Local	N/A	N/A	N/A	Low	Not Significant
Hydrology											
Blairmore Creek streamflow	Operations, post-closure	Potential effects on high, average and low flows	• implement a water management plan to address selenium management and augmentation of potentially impacted tributaries for the Project; • ensure the coal handling and processing plant facilities will be aligned in such a way to minimize drainage diversions and runoff interception (*e.g.*, maintain natural vegetated buffers between active mine areas and undisturbed	Positive	Low to Moderate	Local	Long	Continuous	Irreversible	High	Not Significant
Gold Creek streamflow	Operations, post-closure	Potential effects on high, average and low flows		Negative	Low	Local	Long	Continuous	Irreversible	High	Not Significant
Blairmore Creek and Gold Creek sediment concentration	Operations, post-closure	Potential increase in sediment concentration		Positive/Negative	Low	Local	Long	Periodic	Short term	High	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			streams); • direct runoff from active mining areas, roads, and topsoil stockpiles to the water management sedimentation ponds for removal of suspended solids; • direct runoff from the north and south waste rock disposal areas to the surge ponds for selenium treatment; • design settling ponds according to the latest sizing methodology (1:10 year storm event and safely convey up to the 1;100 year flood event); • maintain a 100 m minimum setback from the main stems of Blairmore Creek and Gold Creek, and a 30 m setback from associated headwater tributaries; • design and construct any potential watercourse crossings to meet or exceed the regulatory requirements for approval under the provincial *Water Act*; • construct clear span crossings over all watercourses identified as potential fish bearing streams; • use appropriately sized culverts, as required, to maintain drainage along non-fish bearing headwater tributaries and/or ephemeral drainage draws; • install haul road berms to contain road runoff and direct it to designated runoff control works; • incorporate flow and erosion control measures, such as ditch check structures, natural depressions or low areas to trap sediment, silt fences or exfiltration ditches in								

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			small, low gradient areas adjacent to soil and stockpiles areas; • train personnel to minimize disturbances and use and maintain drainage and sediment controls; and • utilize saturated backfill to remove selenium from enriched waters.								
Surface Water Quality											
Released process water	Construction, operations, closure, and post-closure	Increased turbidity, acid rock drainage, leaching, metals	• A series of collection ditches, sumps, pumps and settling ponds will be established to manage all surface water on the mine site. A total of five settling ponds are proposed to treat total suspended solids and associated constituents in the water before release of water to the environment. Surface water runoff from mining areas, haul roads, overburden disposal areas and any other disturbed areas as well as groundwater runoff from the pit will be collected and directed to settling ponds for treatment and or will be pumped to the raw water pond for storage and use in the coal cleaning process. Once suspended solids are settled, water will be released to Blairmore Creek and Gold Creek; • Slope grading and stabilization techniques will be adopted. Slopes will be contoured to produce moderate slope angles to reduce erosion risk. Other stabilization techniques used to control erosion include: ditching above the cutslope to channel surface runoff away from the cutslope, leaving buffer (vegetation) strips between the	Neutral	Low / Moderate (sulphate)	Local	Short / Residual (sulphate)	Occasional	Short-term / Irreversible (sulphate)	--	Not Significant
Nitrogen-based explosives	Blasting during mine operations	Higher concentrations of ammonia, nitrite and nitrate		Neutral	Low	Local	Short	Low	Short-term	--	Not Significant
Accidental leaks and spills	Construction and operations	Elevated concentrations of hydrocarbons, chemicals and waste products		Neutral	Moderate	Local	Short	Low	Short-term	--	Not Significant
Domestic wastewater	Construction, operations and closure	Elevated concentrations of nutrients resulting in increased primary productivity and oxygen depletion		Neutral	Low	Local	Short	Low	Short-term	--	Not Significant
Acidying/air emissions	Construction and operations	Increase in acidity		Neutral	Low	Local	Medium	Continuous	Short-term	--	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			construction site and a watercourse, and placing large rock rip rap to stabilize slopes; • Temporary measures to control erosion before a vegetation cover is re-established, including: diversion ditches, drainage control, check dams, sediment ponds, sumps, and mulches; • Progressive reclamation to reduce the amount of disturbed area at any given time. During reclamation, permanent plant cover and revegetation will be established. Soil erosion will be reduced by minimizing the time that reclaimed surfaces are left bare; • Whenever possible, construction activities in close proximity to watercourses will be carried out during periods of lowest potential impact, typically during the winter months. A 100 m undisturbed buffer zone, maintaining existing vegetation, strip will be left between development activities and Blairmore Creek to the west and Gold Creek to the east; • The design and construction of all stream crossings will be done in compliance with the Alberta Code of Practice for Watercourse Crossings and associated guidelines. This means that all stream crossings constructed by the Project will meet regulatory requirements for protection of fish resources and aquatic habitat, which also will effectively mitigate against effects on surface water quality;								

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			• Construction techniques will be employed that protect the integrity of the streams as well as the quality of water; • Where necessary, interim erosion/sediment control measures will be utilized until long-term protection can be effectively implemented; • Benga will implement specific mitigation measures to attenuate selenium and nitrite and nitrate concentrations in process water before release to the receiving environment (discussed further in CR #5); • The Project will incorporate design features, management practices and mitigation plans to minimize the potential for spills that might adversely affect surface water quality. Appropriate design features (*e.g.*, berms and containment areas around potential sources), best management practices and emergency spill response plan will be followed; • Spills of produced water or other potentially hazardous substances will be cleaned up according to emergency response procedures and regulations (Section C.7). Leaks and spills will be reported to AER and AEP as required and cleaned up in a timely manner; and • Domestic wastewater will be collected in storage tanks and transferred to the wastewater treatment facility. Treated effluent will be tested to ensure that its								

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			quality meets or exceeds the limits for treated wastewater discharge as be specified in the EPEA approval								
Aquatic Resources											
Fish - westslope cutthroat trout	Construction, operations and closure	Changes in flow resulting in habitat loss and fragmentation	See Table 2B-1, Appendix2B	---	---	---	---	---	---	---	---
Aquatic health	Construction, operations and closure	Fish and aquatic resources health		---	---	---	---	---	---	---	---
Terrain & Soils											
Soil profile disturbance	Construction, operations and closure	Reduced soil quality	• upland surface soil and sufficient subsoil and suitable overburden materials (coversoil) will be salvaged using best management practices. Supervision of salvage operations, stockpiling, and placement of materials during reclamation (including direct placement) by qualified individuals is recommended; • soil handling activities should be suspended under wet or windy conditions when the degradation of soil quality is a potential; • organic soil material will be salvaged for later use in reclamation; • placement of coversoil material will require that it is stored in a manner to minimize material loss or degradation of quality and located in areas that are accessible and retrievable; • varying thicknesses of coversoil will be replaced, with a target of 20 cm average thickness, to assist in creating diversity in the reclaimed landscapes;	Initially – Negative; Over time - Neutral	Moderate	Local	Extended	Continuous, diminish with time	Long-term	High	Not Significant
Erosion	Construction, operations and closure	Soil loss		Negative	Initially - Moderate, Low - with veg. establishment	Local	Short	Occasional	Irreversible	Initially High decreasing to Low	Not Significant
Accidental releases	Construction, operations and closure	Reduced soil quality		Neutral	Low	Local	Long	Occasional	Short-term	Medium to Low	Not Significant
Soil biodiversity & ecological integrity	Construction, operations and closure	Reduced soil biodiversity & ecological integrity		Negative	Low	Local	Extended – diminish with time	Continuous	Long-term	High	Not Significant
Alteration of terrain	Construction, operations and closure			Neutral	Moderate	Local	Residual	Continuous	Irreversible	High	Not Significant
Reclaimed overburden materials	Construction, operations and closure	Increased time to equivalent land capability		Neutral	Low	Local	Residual	Continuous, diminish with time	Long-term	Low	Not Significant
Land capability	Construction, operations and closure	Increased time to equivalent land capability		Neutral	Moderate	Local	Extended – diminish	Continuous	Irreversible	High	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			• decompaction of the replaced materials will be done; • all reclaimed lands will be initially vegetated using a cover crop upon completion of soil placement to minimize soil loss via erosion; • soil erosion control measures will be implemented to minimize loss of soil materials *via* wind or water erosion during activities associated with coversoil salvage, storage and reclamation. • implementation of appropriate soil salvage activities.				with time				
Vegetation											
Terrestrial vegetation	Construction, operations and closure	Reduced types and area	• a re-vegetation program that aims to establish diverse native vegetation communities (closed conifer forests, moderate mixed forests, natural upland herbaceous grasslands, and treed wetlands) with equivalent pre-disturbance capability; • a C&R Plan that aims to establish communities that are locally and regionally limited in distribution where conditions allow; • preservation of adjacent vegetation communities by minimizing the area required for construction and operation of the Project; • provision of appropriate soil substrate where re-vegetated areas can establish; • seeding of stockpiled topsoil with suitable vegetation species mix to ensure long term stability of the soil piles, which reduces erosion and the	Neutral	High	Local	Extended	Continuous	Long-term	High	Not Significant
Rare plants	Construction, operations and closure	Reduced rare plant potential		Neutral	High	Local	Extended	Continuous	Long-term	High	Not Significant
		Removal of rare plants		Negative	High	Local	Extended	Continuous	Long-term	High	Not Significant
		Removal of whitebark pine		Positive	High	Local	Extended	Continuous	Long-term	High	Not Significant
Rangeland resources	Construction, operations and closure	Reduced area		Neutral	High	Local	Extended	Continuous	Long-term	High	Not Significant
Forest resources	Construction, operations and closure	Reduced area/volume		Neutral	Low	Local	Extended	Continuous	Long-term	High	Not Significant
Old growth forests	Construction, operations and closure	Reduced area		Positive	Low	Local	Extended	Continuous	Long-term	High	Not Significant
TEK species	Construction, operations and	Removal		Neutral	High	Local	Extended	Continuous	Long-term	High	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
	closure		potential for weed establishment; • use of coarse woody debris and direct soil placement techniques to augment mycorrhizal and microbial inoculums; • use direct placement of soil for provision of propagules to enhance opportunity for re establishment of native species composition and enhanced species richness; and • planting of multiple layers of native vegetation (e.g., trees, shrubs and graminoids) to provide initial structure for wildlife habitat and to enhance biodiversity; • implement seed collection, propagation, and/or relocation plan for rare species; and • establish disease-resistant whitebark pine.								
Wetlands	Construction, operations and closure	Reduced types and area		Positive	Moderate	Local	Extended	Continuous	Long-term	High	Not Significant
Biodiversity	Construction, operations and closure	Reduced species diversity		Negative	Moderate	Local	Extended	Continuous	Long-term	High	Not Significant
		Reduced community diversity		Neutral	High	Local	Extended	Continuous	Long-term	High	Not Significant
		Reduced landscape diversity		Positive	Moderate	Regional	Residual	Continuous	Irreversible	High	Not Significant
Noxious vegetation	Construction, operations and closure	Increased distribution		Neutral	Low	Local	Extended	Periodic	Long-term	High	Not Significant
Potential acid input and nitrogen deposition	Construction and operations	Acidification, increased nitrogen		Neutral	Low	Local	Extended	Continuous	Long-term	High	Not Significant
Wildlife											
Columbia spotted frog	Construction and operations	Reduced habitat availability	• a C&R Plan that aims to establish suitable wildlife habitat; • pre-disturbance surveys will be conducted along the edges of all areas to be cleared during Project development to determine the occurrence of any important wildlife habitat features; • in areas of suitable wildlife habitat (on the edge of the Project footprint boundary) appropriate setback distances (or buffer zones) will be considered; • clearing and equipment use/storage/cleaning in undisturbed	Negative	Low	Local	Long	Continuous	Long-term	High	Not Significant
		Reduced movement ability		Negative	Low	Local	Long	Continuous	Short-term	High	Not Significant
		Increased mortality		Negative	Low	Local	Extended	Continuous	Long-term	Moderate	Not Significant
		Reduced abundance		Negative	Low	Local	Extended	Continuous	Long-term	High	Not Significant
Western toad	Construction and operations	Reduced habitat availability		Negative	Low	Local	Long	Continuous	Long-term	High	Not Significant
		Reduced movement ability		Negative	Low	Local	Long	Continuous	Short-term	High	Not Significant
		Increased mortality		Negative	Low	Local	Extended	Continuous	Long-term	Moderate	Not Significant
		Reduced abundance		Negative	Low	Local	Extended	Continuous	Long-term	High	Not Significant
Olive-sided flycatcher	Construction and operations	Reduced habitat availability		Negative	Moderate	Local	Extended	Continuous	Long-term	High	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
		Reduced movement ability	areas within and adjacent to the Project footprint will be avoided; • vegetation adjacent to high-activity linear corridors (*e.g.*, access roads, coal conveyor) will be retained to reduce the extent of noise and visual sensory disturbances to the extent possible; • a minimum of six wildlife crossings (underpasses and overpasses) will be incorporated into the design of the coal conveyor (the conveyor route is approximately 5.4 km in length); • where appropriate, vegetated buffer zones (100 m or minimum of 30 m; pending topography constraints) will be maintained between Project infrastructure and wetlands, creeks, and streams to the best extent possible; •nga has developed a visual impact mitigation plan that reduces stray and non-essential artificial lighting to minimize wildlife effects and that will comply with OH&S safety requirements; • to mitigate the potential effects of sensory disturbance (acoustic and visual) on effective habitat availability in the southeast portion of the Gold Creek valley, Benga will install and maintain a 15-m tall earth berm along the eastern edge of the south disposal area; • noise mitigation (see Noise CR #2a); • surface water management ponds and ditches located in undisturbed areas of the Project footprint will be	Negative	Low	Local	Long	Continuous	Short-term	High	Not Significant
		Increased mortality		Neutral	Low	Local	Long	Isolated	Short-term	High	Not Significant
		Reduced abundance		Negative	Low	Local	Long	Continuous	Long-term	High	Not Significant
Great gray owl	Construction and operations	Reduced habitat availability		Neutral	Low	Local	Long	Continuous	Long-term	High	Not Significant
		Reduced movement ability		Neutral	Low	Local	Long	Continuous	Short-term	High	Not Significant
		Increased mortality		Neutral	Low	Local	Long	Occasional	Short-term	High	Not Significant
		Reduced abundance		Negative	Low	Local	Long	Continuous	Short-term	Moderate	Not Significant
Little brown myotis	Construction and operations	Reduced habitat availability		Negative	Moderate	Local	Extended	Continuous	Long-term	High	Not Significant
		Reduced movement ability		Neutral	Low	Local	Long	Continuous	Short-term	Moderate	Not Significant
		Increased mortality		Neutral	Low	Local	Long	Occasional	Short-term	Low	Not Significant
		Reduced abundance		Negative	Low	Local	Long	Continuous	Long-term	Moderate	Not Significant
American marten	Construction and operations	Reduced habitat availability		Negative	Moderate	Local	Extended	Continuous	Long-term	High	Not Significant
		Reduced movement ability		Negative	Low	Local	Extended	Continuous	Long-term	Low	Not Significant
		Increased mortality		Negative	Low	Local	Short	Occasional	Short-term	Low	Not Significant
		Reduced abundance		Negative	Low	Local	Extended	Continuous	Long-term	Moderate	Not Significant
Canada lynx	Construction and operations	Reduced habitat availability		Negative	Moderate	Regional	Extended	Continuous	Long-term	High	Not Significant
		Reduced movement ability		Negative	Low	Regional	Long	Continuous	Long-term	Moderate	Not Significant
		Increased mortality		Negative	Low	Local	Long	Occasional	Short-term	Low	Not Significant
		Reduced abundance		Negative	Low	Local	Extended	Continuous	Short-term	Low	Not Significant
Grizzly bear	Construction and operations	Reduced habitat availability		Positive	Low	Regional	Extended	Continuous	Long-term	Moderate	Not Significant
		Reduced movement ability		Negative	Low	Regional	Long	Isolated	Long-term	Moderate	Not Significant
		Increased mortality		Negative	Low	Local	Residual	Occasional	Long-term	Moderate	Not Significant
		Reduced abundance		Positive	Low	Local	Extended	Continuous	Long-term	Moderate	Not Significant
Moose	Construction and	Reduced habitat availability		Positive	Low	Regional	Residual	Continuous	Long-term	Moderate	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
	operations		designed to allow wildlife to move around or cross safely; • road plowing and grading will be conducted in a manner that does not restrict wildlife from crossing access roads or accessing wildlife crossings; • retaining slash and large woody debris in the salvaged soil to provide microsites for native plant and hide cover and perches for wildlife (migratory birds); • ensuring reclaimed areas promote the re-establishment of woody species and are on a trajectory for reforestation; • retaining residual patches of essential raptor habitat and habitat features within and adjacent to the mine footprint (*i.e.*, mature poplar trees, tall conifer trees) to provide perches, nest sites, and hide cover; • minimizing loss of mature and old-growth forest habitat and avoid complex, multi-story mixedwood forest where possible; • maintaining a 100 m buffer of undisturbed forest around Blairmore Creek, Gold Creek and other riparian corridors. • conducting monitoring to identify other habitable ponds and to identify habitat requirements and constraints; • constructing trial breeding ponds; • reclaiming upland habitat adjacent to reconstructed breeding ponds; and • avoiding habitat destruction and alteration outside of the defined Project footprint to the best extent								
		Reduced movement ability		Negative	Low	Regional	Long	Continuous	Long-term	Moderate	Not Significant
		Increased mortality		Negative	Low	Local	Long	Occasional	Long-term	Moderate	Not Significant
		Reduced abundance		Neutral	Low	Local	Residual	Continuous	Long-term	Moderate	Not Significant
Elk	Construction and operations	Reduced habitat availability		Positive	Low	Regional	Residual	Continuous	Long-term	High	Not Significant
		Reduced movement ability		Negative	Low	Regional	Long	Continuous	Long-term	Moderate	Not Significant
		Increased mortality		Negative	Low	Local	Long	Occasional	Long-term	Moderate	Not Significant
		Reduced abundance		Positive	Low	Local	Residual	Continuous	Long-term	Moderate	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			possible. • all access to the Mine Permit will be controlled; no uncontrolled access will be permitted. Common operational practices will include: • prohibiting use of snowmobiles and ATVs; • prohibiting hunting, harassment, or feeding of wildlife; • implementing a strictly enforced zero tolerance policy on the use of firearms; • timing vegetation site clearing activities are to occur outside the April 15 to August 31 period to avoid disrupting nesting migratory and resident songbirds and raptors; • in the event that vegetation clearing must occur within the restricted activity period, pre-disturbance nesting surveys will be conducted by experienced avian biologists according to established sensitive species inventory guidelines (Government of Alberta 2013b); • design water management ponds and drainage ditches, and pit lakes to minimize potential entrapment of wildlife; • enforce speed limits (≤50 km/hr) along the main access road and utility corridors, and place signs at identified wildlife crossings to increase driver diligence to minimize wildlife-vehicle collisions. Vehicles will yield to all wildlife crossing the main access road; • bird collisions with buildings will be mitigated by placing visual								

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			markers on windows, and collisions with the proposed power line will be mitigated by installing large 'floats' or other markers; • avoiding direct and indirect impacts to known, primary bat maternity roosts and hibernacula should any such roosts or hibernacula be located/identified; and • where possible, tree clearing to be planned to avoid the May to August bat summer season.								
Land & Resource Use											
Land use policies and resource management initiatives	Construction, operations and closure	Conflict with intent of policies	• continue to consult with local stakeholders, through the life of the Project, in order to identify concerns and proactively address issues when they arise; • undertake progressive reclamation, and reclaim the area to a landscape that includes provisions for a variety of land uses, including forestry, wildlife habitat, grazing, recreational use etc.	Neutral	Nil	Local	Extended	Continuous	Long-term	High	Not Significant
Resource development	Construction, operations and closure	Reduced access		Neutral	Nil	Local	Extended	Continuous	Long-term	High	Not Significant
Hunting and trapping	Construction, operations and closure	Reduced access and availability		Neutral	Nil	Local	Extended	Continuous	Long-term	High	Not Significant
Access and utilities	Construction, operations and closure	Reduced access		Neutral	Nil	Local	Extended	Continuous	Long-term	High	Not Significant
Tourism and outdoor recreation	Construction, operations and closure	Reduced access / opportunity		Neutral	Nil	Local	Extended	Continuous	Long-term	High	Not Significant
Unique sites and special features	Construction, operations and closure	Damage		Neutral	Nil	Local	Extended	Continuous	Irreversible – Rare	High	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
Socio-economics											
Income	Construction, operations, closure, and post-closure	Increased income	• support in the hiring of a municipal planner for Crowsnest Pass to assist with community planning; • support local municipalities in discussions with the province to acquire additional funding for services and infrastructure; • work with local governments to facilitate the timely development of residential land and dwellings; • house construction workers in a temporary camp, which has the ancillary effect of reducing the resident population effect of the Project and the anticipated demand for housing. • develop and implement specific policies regarding employee health and safety and emergency response; • maintain explicit and enforced workplace policies with regards to alcohol and drug use, and illegal activities; • provide employees with access to the company's confidential employee assistance plan, which provides support for families and individuals who may experience difficulty dealing with personal, family, or work-life issues that can affect one's health and well-being; • continue to support local programs and initiatives through both financial and in-kind contributions, where appropriate; • cooperate with service providers (*e.g.*, health, social, education),	Positive	Low	Regional/ Provincial	Long	Continuous	Long-term	High	Not Significant
Government revenue	Construction, operations, closure, and post-closure	Increased revenue		Positive	Low to Moderate	Regional/ Provincial/ National	Long	Continuous	Long-term	High	Not Significant
Employment	Construction, operations, closure, and post-closure	Increased opportunities		Positive	Low	Regional/ Provincial	Long	Continuous	Long-term	High	Not Significant
Population	Construction, operations, closure, and post-closure	Increased population		Mixed	Low	Regional	Long	Continuous	Long-term	High	Not Significant
Housing	Construction, operations, closure, and post-closure	Increased demand for housing		Positive	Moderate	Regional	Long	Continuous	Long-term	High	Not Significant
Social infrastructure	Construction, operations, closure, and post-closure	Increased demans on social infrastructure		Negative	Low	Regional	Long	Occasional to Periodic	Long-term	High	Not Significant
Municipal Infrastructure and Services	Construction, operations, closure, and post-closure	Increased demans on municipal infrastructure		Negative	Moderate	Regional	Long	Continuous	Long-term	High	Not Significant
Traditional Land Use and Culture	Construction, operations, closure, and post-closure	Increased income / reduced access to traditional land use		Mixed	Low	Regional	Extended	Continuous	Long-term	High	Not Significant
Transportation	Construction, operations, closure, and post-closure	Increased traffic		Negative	Moderate	Regional	Long	Continuous	Long-term	High	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			government, and other industrial operators in the region to assist in addressing effects of its project and resource development; • continuous monitoring of project effects and associated mitigation measures *via* Benga's engagement with regional and provincial stakeholders. • working with the municipalities in the region to keep them informed of its development plans and their timing so that the affected municipalities have sufficient time to plan for changes in the demand for services. • undertake progressive reclamation, giving consideration to traditional land use, where possible; • provide access to traditional users across the lease; • compensate trappers directly affected by the Project, according to industry standards; • promote cultural diversity awareness to Benga's employees and contractors regarding respect for traditional resource users; • support specific community projects, such as elder and youth programs, where appropriate; and • continue working with Aboriginal communities in the region to ensure that their concerns with respect to traditional land use and culture are continually considered during Project planning and operation.								

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
Human Health											
NO2	Construction and operations	Health effects - acute	Assuming public access within the Mine Permit Boundary is restricted and the mitigation measures assumed by the other disciplines are implemented (Section A.11); there is no need for further mitigation of emissions based on the results of the HHRA.	Negative	Low	Local	Long	Periodic	Short-term	Low	Not Significant
PM2.5	Construction and operations	Health effects - acute		Negative	Low	Local	Short	Periodic	Short-term	Low	Not Significant
		Health effects - chronic		Negative	Low	Local	Long	Continuous	Irreversible	Low	Not Significant
PM10 - MPOI	Construction and operations	Health effects - acute		Negative	Moderate	Local	Short	Periodic	Short-term	Low	Not Significant
		Health effects - chronic		Negative	Low	Local	Short	Continuous	Irreversible	Low	Not Significant
PM10 - R10	Construction and operations	Health effects - acute		Negative	Low	Local	Short	Periodic	Short-term	Low	Not Significant
		Health effects - chronic		Negative	Low	Local	Short	Continuous	Irreversible	Low	Not Significant
PM10 - R6	Construction and operations	Health effects - chronic		Negative	Low	Local	Long	Continuous	Irreversible	Moderate	Not Significant
PM10 - R8 and R14	Construction and operations	Health effects - chronic		Negative	Low	Local	Long	Continuous	Irreversible	Moderate	Not Significant
Historical Resources											
Archaeological and paleontological resources	Construction and operations	Removal/damage of historical resources	• to mitigate potential rail yard impacts, pertinent best management practices, as outlined in the Guidelines for the New Development in Proximity to Railway Operations, will be adhered to. For public access, structures on the inside of the rail loop will be fenced off and will be accessible to the public via request. For structures outside of the rail loop, a roadside interpretive pull off will be developed; • disturbance of any further remains located within the proposed rail load out footprint, will be mitigated with	Neutral	Low	Local	Long	Occasional	Irreversible	High	Not Significant

Table 2C-1 Potential Effects, Mitigations, and Impact Ratings for CEAA Valued Components

Valued Component	Project Activity	Potential Effects	Proposed Mitigation	Residual Effect	Magnitude	Extent	Duration	Frequency	Reversibility	Probability of Occurrence	Significance
			controlled excavations to remove the remains; • a mitigation excavation of approximately 80 m2 will occur in the CHPP footprint in advance of Project development to remove all remaining historical resources or representative samples; • historic mine remains will be completely documents and recorded; • historic mining camp remains will be documented in a 20 m2 excavation; • additional field surveys and documentation, where required.								

Appendix 2d

Mitigations and Commitments

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
Air Quality	Mitigation • the mine fleet is regularly upgraded and by Year 19, equipment will be newer and more efficient than assumed in emission estimation. Exhaust emissions from the U.S. EPA Tier 4 (2010) standards were used in Project emission estimates and it is likely that off-road standards will be more stringent by Year 19; • water is systematically applied to haul roads and to the plant access road to minimize dust using a water truck dedicated to this purpose. An emission control efficiency of 80% during the summer months is expected from this measure; • snow cover is retained on the road as a mitigative measure during the winter months, unless the cover would compromise the safety of vehicle operations. Winter ground is frozen and, since the soil and overburden have elevated moisture contents, there is a reduction of dust emissions at that time; • gravel or crushed rock is used on the haul roads. Gravel is observed to produce less dust than clay and sandy surfaces; • use of a grader to maintain the active surface of the road. This procedure is expected to reduce the effective silt content of the portion of the road where the wheels of the haul trucks travel. The grader blade would tend to move the silt particles to the inactive portion (side) of the road; • the mined areas are reclaimed promptly and backfilled with overburden and soil from pre-strip areas and then covered by vegetation, which reduces windblown fugitive dust emissions from the barren land; • trees and bushes will be preserved around mines and plant, effectively trapping dust emissions from mining activities and reducing dust concentrations further from mining activities; • the coal processing plant will be contained within an enclosed area and all coal material handling will be via covered conveyors; • dust generation from transferring coal from the conveyor to the stock pile will be minimized by the use of luffing stackers (those that can lower and raise their boom) which will minimize the drop height and drop time of the coal; and • fugitive dust generation will be minimized at the rail load-out, with full cladding on the sides of the load-out structure to create a wind shelter, and with the movable discharge chute of the bin located as close as practical to the coal within the rail cars. Monitoring • Benga proposes to establish an ambient air quality monitoring program designed to document the potential, localized, fugitive dust impacts due to Project operation. The measurement program is designed to measure dustfall. Details of the required monitoring are a function of the operational configuration at any time. As such, the monitoring program will need to be developed when the mine plan is established and operations begin, and then modified as mining progresses. • Benga commits to developing a more detailed monitoring program when the mine plan is more advanced than it is now, and commits to reviewing its adequacy periodically in future. Benga will provide the draft monitoring plan to AER six months before planned start-up and to implement the program three months or more prior to the beginning of construction.
Noise	Mitigation • route the haul trucks (conveying waste rock and coal) along the western slope of the south disposal area such that the south disposal area itself provides noise shielding between the operating equipment and the residential receptors to the east; and, • install and maintain a 15 m tall earthen berm along the eastern edge of the south disposal area. The earthen berm will be constructed and maintained during the day-time (when required) and the 15 m earthen berm will increase in overall elevation as the height of the south disposal area increases. • blasting to occur only on weekdays during typical day-time hours;

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	• minimal blasting during cloud cover; and • blasting to be limited to smaller more localized blasts, which reduces the amount of explosives used at any one time.
	Monitoring • The NIA modelling results indicate the possibility of a low frequency tonal noise. Assessment of any actual low frequency tonal noise would require noise monitoring to be conducted during normal operations of the Project. Based on this, should, upon start-up of the Project, a low frequency noise complaint is received, Benga will conduct a comprehensive sound level (CSL) survey in accordance with the requirements of the AER *Directive 038*.
Hydrogeology	Mitigation • Pit dewatering is necessary for the mine operations; therefore, drawdown of groundwater in the bedrock units will occur during the Project. Effects to bedrock aquifers are predicted to be localized such that no mitigation measures are required. No impacts are predicted at the water wells, therefore no mitigation is proposed. • Mitigation measures for minimizing or preventing adverse impacts on shallow groundwater quality include industry-standard operating practices, preparedness for upset conditions and the appropriate management of upset conditions. Monitoring • Monitoring of water levels in bedrock aquifers near the open pit and up-gradient of any receptors will be undertaken as part of the monitoring program. Monitoring will provide verification of the magnitude and extent of predicted impacts to hydraulic head. Monitoring of domestic water wells is not proposed at this time. • A groundwater monitoring program will be implemented to detect any impacts on shallow groundwater quality resulting from mine spoil and mining operations. Monitoring will focus primarily on areas in the vicinity of the ex-situ rock disposal areas and sedimentation ponds that store captured water from mine spoil run-off. • A groundwater monitoring program will be implemented to detect any impacts on the shallow groundwater quality resulting from surface operations at the CHPP and selected storage areas. In the event that an impact on groundwater quality is detected, the groundwater response plan will be implemented. The response plan would include determining the magnitude of the impact and could include risk management or remediation. The response plan will serve to mitigate impacts to groundwater quality. All monitoring wells will be sampled bi-annually to evaluate water quality.
Hydrology	Mitigation • implementation of a water management plan to address selenium management and augmentation of potentially impacted tributaries for the Project; • ensure the coal handling and processing plant facilities will be aligned in such a way to minimize drainage diversions and runoff interception (*e.g.*, maintain natural vegetated buffers between active mine areas and undisturbed streams); • direct runoff from active mining areas, roads, and topsoil stockpiles to the water management sedimentation ponds for removal of suspended solids; • direct runoff from the north and south waste rock disposal areas to the surge ponds for selenium treatment; • design settling ponds according to the latest sizing methodology (1:10 year storm event and safely convey up to the 1;100 year flood event): Note that Golder designed these to 1:200 year flood level; • maintain a 100 m minimum setback from the main stems of Blairmore Creek and Gold Creek, and a 30 m setback from associated headwater tributaries; • design and construct any potential watercourse crossings to meet or exceed the regulatory requirements for approval under the provincial *Water Act*; • construct clear span crossings over all watercourses identified as potential fish bearing streams; • use appropriately sized culverts, as required, to maintain drainage along non-fish bearing headwater tributaries and/or ephemeral drainage draws; • install haul road berms to contain road runoff and direct it to designated runoff control works;

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	• incorporate flow and erosion control measures, such as ditch check structures, natural depressions or low areas to trap sediment, silt fences or exfiltration ditches in small, low gradient areas adjacent to soil and stockpiles areas; • train personnel to minimize disturbances and use and maintain drainage and sediment controls; and • utilize saturated backfill to remove selenium from enriched waters.
	Monitoring • conduct flow and TSS monitoring at all settling ponds; • conduct water quality monitoring of discharges from the saturated backfill areas that discharge; • conduct regular inspections of all drainage works and upstream and downstream water quality sampling; and • conduct continuous monitoring of flow on Blairmore Creek, Gold Creek, and all potentially impacted tributaries.
Geochemistry	Mitigation • treatment of contact waters in sub-oxic saturated zones of backfilled pits resulting in sequestration of selenium in adsorbed and precipitated forms;. • implementation of management practices that reduce the likelihood of acid rock drainage (ARD) generation to reduce acidic dissolution of metals and consequently to reduce the likelihood of having to treat mine water for metals; • minimize the residual ammonium nitrate (AN) in waste rock through explosives management practices including avoidance of spills, reduction of ANFO sleep time, use of appropriate measures to limit loss in wet holes, minimization of misfires, and measures to recover explosives from misfires; • minimization and capture of contact water surface flow and groundwater seepage – followed by removal of selenium in the managed saturation zones; and, • post treatment from saturated backfills, aeration or oxidation followed by settling of solids may be required to remove constituents such as ferrous iron or nitrite. Such a treatment process could be constructed and operated semi-passively by allowing outflow from the saturated zones to cascade over a rockfall into a pond. Monitoring • for source control, reservoirs for inundating waste rock are most often open pits. A decision to install covers on waste rock dumps may be made at any time during the design, operations or closure period for a Project;. • seepage minimization and capture monitoring during operations; and, • if required, active treatment for dissolved metals. Operational test-work will be carried out to evaluate operating parameters for the managed saturated backfills is expected to reveal the type and extent of discharge treatment required.
Water Quality	Mitigation • A series of collection ditches, sumps, pumps and settling ponds will be established to manage all surface water on the mine site. A total of five settling ponds are proposed to treat total suspended solids and associated constituents in the water before release of water to the environment. Surface water runoff from mining areas, haul roads, overburden disposal areas and any other disturbed areas as well as groundwater runoff from the pit will be collected and directed to settling ponds for treatment and or will be pumped to the raw water pond for storage and use in the coal cleaning process. Once suspended solids are settled, water will be released to Blairmore Creek and Gold Creek; • Slope grading and stabilization techniques will be adopted. Slopes will be contoured to produce moderate slope angles to reduce erosion risk. Other stabilization techniques used to control erosion include: ditching above the cutslope to channel surface runoff away from the cutslope, leaving buffer (vegetation) strips between the construction site and a watercourse, and placing large rock rip rap to stabilize slopes; • Temporary measures to control erosion before a vegetation cover is re-established, including: diversion ditches, drainage control, check dams, sediment ponds, sumps, and mulches;

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	• Progressive reclamation to reduce the amount of disturbed area at any given time. During reclamation, permanent plant cover and revegetation will be established. Soil erosion will be reduced by minimizing the time that reclaimed surfaces are left bare; • Whenever possible, construction activities in close proximity to watercourses will be carried out during periods of lowest potential impact, typically during the winter months. A 100 m undisturbed buffer zone, maintaining existing vegetation, strip will be left between development activities and Blairmore Creek to the west and Gold Creek to the east; • The design and construction of all stream crossings will be done in compliance with the Alberta Code of Practice for Watercourse Crossings and associated guidelines. This means that all stream crossings constructed by the Project will meet regulatory requirements for protection of fish resources and aquatic habitat, which also will effectively mitigate against effects on surface water quality; • Construction techniques will be employed that protect the integrity of the streams as well as the quality of water; • Where necessary, interim erosion/sediment control measures will be utilized until long-term protection can be effectively implemented; • Benga will implement specific mitigation measures to attenuate selenium and nitrite and nitrate concentrations in process water before release to the receiving environment (discussed further in CR #5); • The Project will incorporate design features, management practices and mitigation plans to minimize the potential for spills that might adversely affect surface water quality. Appropriate design features (*e.g.*, berms and containment areas around potential sources), best management practices and emergency spill response plan will be followed; • Spills of produced water or other potentially hazardous substances will be cleaned up according to emergency response procedures and regulations (Section C.7). Leaks and spills will be reported to AER and AEP as required and cleaned up in a timely manner; and • Domestic wastewater will be collected in storage tanks and transferred to the wastewater treatment facility. Treated effluent will be tested to ensure that its quality meets or exceeds the limits for treated wastewater discharge as be specified in the EPEA approval Monitoring • Water quality compliance monitoring will be an integral component of the Project operations, and Benga expects certain ambient aquatic monitoring conditions to be contained in the EPEA Approval with respect to water quality sampling. Settling/release ponds will be tested before release to the surrounding environment to verify acceptability of release waters for variables to be defined under the approval(s) for the Project. A water quality monitoring program will be implemented in natural watercourses both upstream and downstream of the Project.
Aquatics Westslope cutthroat trout	Mitigation Mine configuration / rock disposal placement sequencing to minimize disturbance to Gold and Blairmore creeks: • design features minimize potential for spills; • construction techniques protect the integrity and water quality of the streams; • Water Management Plan; • 100 m undisturbed buffer along Blairmore Creek and Gold Creek; • instream construction outside the restricted activity period; • clear span crossings over all potential fish-bearing watercourses; • selenium management and acid rock drainage management; • environmental management plans; • erosion and sediment control plans • spill prevention and response plan; and

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	• progressive reclamation. Other key commitments include: • comply with the *Alberta Code of Practice for Watercourse Crossings* and the *Alberta Water Act*; • comply with *Guidelines for the Use of Explosives in or near Canadian Fisheries Waters*; • habitat offset implementation plan for westslope cutthroat trout; and • apply Alberta Westslope Cutthroat Trout Recovery Plan and Recovery Strategy for the Westslope Cutthroat Trout Alberta Populations in Canada establish Gold Creek Stewardship Program To mitigate the potential for increased fishing pressure and harvest resulting, Benga will: • discourage fishing by Project employees in the LSA; • conduct awareness training and education to understand the implications of fishing in the LSA; and • develop and implement an access control policy. Monitoring Monitoring plans for the Project will be finalized at the end of 2016 once all significance evaluations are complete; however, the framework for monitoring could potentially include (but is not limited to): • implementation of a water quality monitoring program for the life of the project, which will include regular compliance monitoring of sedimentation ponds, which will include but not limited to monitoring of flows and total suspended solids (TSS); • effects monitoring for surface water quality in natural watercourses, both upstream and downstream of Project activities on both Blairmore Creek and Gold Creek; • development and implementation of a benthic invertebrate biomonitoring program to assess the effectiveness of the surface water management; • design and implementation of a monitoring program to monitor sedimentation and stream "embeddedness" patterns in Blairmore Creek and Gold Creek to assess the effectiveness of surface water management; • at the EOM, the evaluation of the end pit lake system through a monitoring program to assess water quantity and water quality; and, • specific monitoring requirements for Blairmore Creek and Gold Creek based on results of the IFN study, as necessary
Soils	Mitigation • upland surface soil and sufficient subsoil and suitable overburden materials (coversoil) will be salvaged using best management practices. Supervision of salvage operations, stockpiling, and placement of materials during reclamation (including direct placement) by qualified individuals is recommended; • soil handling activities should be suspended under wet or windy conditions when the degradation of soil quality is a potential; • organic soil material will be salvaged for later use in reclamation; • placement of coversoil material will require that it is stored in a manner to minimize material loss or degradation of quality and located in areas that are accessible and retrievable; • varying thicknesses of coversoil will be replaced, with a target of 20 cm average thickness, to assist in creating diversity in the reclaimed landscapes; • decompaction of the replaced materials will be done to reduce potential compaction as a result of soil replacement; • all reclaimed lands will be initially vegetated using a cover crop upon completion of soil placement to minimize soil loss via erosion (wind and water); target vegetation establishment will occur through natural regeneration and through seeding or planting of desired understory and tree species;

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	• soil erosion control measures will be implemented to minimize loss of soil materials via wind or water erosion during activities associated with coversoil salvage, storage and reclamation. General mitigation activities to reduce wind or water erosion potential include the following: • when stockpiling coversoil material, piles will be placed in strategic locations, to minimize exposure to wind or water; • stockpiles will be seeded with a non-invasive and weed free seed mix that establishes quickly; • erosion control materials (mats, netting, mulches, straw) will be used to reduce soil surface exposure, as required; • reclaimed landscapes will be reseeded with a quick establishing; non-invasive cover crop to minimize the length of time bare soil is exposed to potential wind and water erosion. In addition, reclaimed landscapes that have a moderate to high water erosion risk (i.e., steep side slopes) will have soil stabilizers or other measures implemented (where necessary) to minimize the potential of erosion (*i.e.*, rough mounding, check bales, silt fences, tackifiers, and/or mulch); and • implementation of appropriate soil salvage activities will ensure sufficient volumes of coversoil materials are salvaged for placement. Sufficient suitable overburden material will be available for placement over unsuitable overburden. Upon backfilling and re-contouring of mine blocks unsuitable overburden will be identified to ensure that sufficient reclamation material is replaced to meet regulatory requirements over all reclaimed lands. Monitoring • direct supervision of salvage and replacement activities by a qualified individual; • erosion of stockpiled or recently replaced soil material as well as effectiveness of erosion control activities; • ensure coversoil replacement coverage and depths meet required standards; • quality of overburden material through a sampling program in order to determine material replacement requirements; • assessment of vegetation communities to determine if the seral communities established are appropriate for the target local common forest ecosystems and desired end land uses. • monitoring of stockpiled soils and reclaimed areas to ensure erosion is minimized; • develop and implement an erosion control plan as required; • based on monitoring results of reclaimed landscapes, adaptive management will be incorporated by Benga in order to allow for continual improvement of erosion control processes; • quality of overburden after mine backfilling and contouring to determine if overburden material located at surface is suitable or unsuitable as root zone medium; • quantity of suitable overburden material placed over unsuitable overburden; and • reclaimed areas for coversoil quality and quantity (depths) and suitability of overburden materials.
Vegetation	Mitigation • a re-vegetation program which aims to establish diverse native vegetation communities (closed conifer forests, moderate mixed forests, natural upland herbaceous grasslands, and treed wetlands) with equivalent pre-disturbance capability; • a C&R Plan which aims to establish communities that are locally and regionally limited in distribution where conditions allow; • preservation of adjacent vegetation communities by minimizing the area required for construction and operation of the Project; • provision of appropriate soil substrate where re-vegetated areas can establish; • seeding of stockpiled topsoil with suitable vegetation species mix to ensure long term stability of the soil piles, which reduces erosion and the potential for weed establishment; • use of coarse woody debris and direct soil placement techniques to augment mycorrhizal and microbial inoculums;

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments

	• use direct placement of soil for provision of propagules to enhance opportunity for re-establishment of native species composition and enhanced species richness; and
	• planting of multiple layers of native vegetation (*e.g.*, trees, shrubs and graminoids) to provide initial structure for wildlife habitat and to enhance biodiversity;
	• implement seed collection, propagation, and/or relocation plan for rare species;
	• establish disease-resistant whitebark pine;
	• the preferred primary mitigation strategy for native rough fescue grasslands is avoidance. When disturbance is unavoidable:
	  ○ construct, or undertake assessments and surveys, during the dormant period for rough fescue (August to March);
	  ○ minimize topsoil stripping and grading;
	  ○ use existing trails; and
	  ○ use geotextiles to minimize the amount of topsoil stripping during construction where grading is required.
	• where disturbance of fescue is unavoidable, where feasible, mitigation strategies will include direct placement of reclamation material (including potential transplantation of rare plants or of foothills rough fescue sod), collection of native seed from areas with foothills rough fescue and rare plants that will be disturbed, seeding of wild harvest seed, as part of a certified, weed-free native seed mixes in re-vegetation plan, and the potential seeding and growing of plugs grown in a greenhouse to be transplanted onto the site.
	• for old growth forests, additional mitigation measures should include reclamation with tree species capable of achieving of old growth conditions.
	• given that wetlands are not common in the Project Footprint and in the region, added mitigation measures for the existing wetland types will include the following:
	  ○ use of best practices to maintain the hydrologic regime of mineral soil wetlands;
	  ○ creation of transition areas between re-vegetated ELCs as outlined in the reclamation plan to the treed swamps, where it is possible and/or appropriate to do so; and
	  ○ placement of culverts within wetlands that will be divided by roads to ensure that water flow between wetlands will not be affected.
	• supplementary mitigation measures for TEK vegetation impacts include the following:
	  ○ consult with and involve First Nations in designing mitigation measures for sustainable management of TEK vegetation;
	  ○ implement a re-vegetation program that aims to re-establish vegetation communities that are common to the pre-disturbed landscape and that will support TEK vegetation;
	  ○ where practicable utilize locally collected seed to preserve the legacy of species and of place.

Whitebark pine	• whitebark pine mitigation will focus on the goals of introducing white pine blister rust resistant strains and conserving genetic diversity during reclamation. To preserve genetic diversity, clusters of whitebark pine will be investigated for suitability for cone/seed collection prior to disturbance and seed collection would include selection of trees showing evidence of white pine blister rust resistance. Conditions and strategies for establishing whitebark pine during reclamation include:
	  ○ avoiding disturbing areas with whitebark pine as much as possible;
	  ○ participating in mitigation approaches outlined in the Alberta Whitebark Pine Recovery Plan including identification of disease resistant trees for seed collection;
	  ○ implementing a reclamation plan that incorporates whitebark pine biology, habitat requirements, and minimization of other threats (e.g., white pine blister rust);
	  ○ identification of high light, low competition sites;
	  ○ planting in pure stands or patches to avoid competition from other trees;
	  ○ avoiding planting in swales and frost pockets;
	  ○ creation of microsites for seedling establishment (rocks, stumps or other coarse woody debris);

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	○ use of recommended spacing to avoid interspecies competition; and ○ planting seedlings in the fall to avoid hot dry summer conditions.
	Monitoring • periodic assessment of the composition, structure, ecological succession and biodiversity of reclaimed vegetation; and • survival, growth and health assessments of re-vegetated areas to monitor the effectiveness of reclamation efforts relative to re-vegetation targets (including noxious and invasive species and effectiveness of control methods); • monitoring and maintenance of drainage control structures should be conducted regularly to ensure water flow and flow patterns are maintained in wetlands adjacent to the Project Footprint; • monitoring road removal at Project closure to ensure restoration of the hydrologic regime; • continue monitoring for a minimum of ten years to ensure composition, structure, and key wetland functions are consistent with those prior to the Project disturbance; and • include the use of sub-emergent vegetation species as indicators of wetland health and integrity in the monitoring program.
Wildlife	Mitigation • minimize the overall disturbance footprint through the mine planning process; • preserve remnant forest patches within the development areas where feasible to provide habitat, habitat connectivity and hide cover for wildlife species; • maximize the direct placement of salvaged soil to enhance native plant development; • retain slash and large woody debris in the salvaged soil to provide microsites for native plant and hide cover for wildlife; • establish a variety of vegetation species and communities suitable for wildlife, and encourage structural complexity within the forests; • encourage understory complexity in reclaimed forests by planting native shrubs such as alder and willow; • ensure that core security areas are provided for wildlife; • provide water management program that ensures the surface water quality is maintained; and • limit sight lines by maintaining mature forest stands as buffers between roads and reclamation areas. • incorporate the existing legacy mining disturbances into the development and reclamation plans for the project, and other proposed land use activities to the best extent possible so that habitat loss, habitat fragmentation, linear disturbance features, and cumulative habitat loss are minimized; • pre-disturbance surveys will be conducted along the edges of all areas to be cleared during Project development to determine the occurrence of any important wildlife habitat features such as migratory bird nests, mineral licks, dens, bat habitat, and platform/stick nests; • in areas of suitable wildlife habitat (on the edge of the Project footprint boundary) appropriate setback distances (or buffer zones) will be considered; • clearing and equipment use/storage/cleaning in undisturbed areas within and adjacent to the Project footprint will be avoided; • vegetation adjacent to high-activity linear corridors (*e.g.*, access roads, coal conveyor) will be retained to reduce the extent of noise and visual sensory disturbances to the extent possible; • the overland coal conveyor system was designed in such a manner to prevent any deposition of coal product along the route from the CHPP to the rail load-out area (Section C.3).

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	This includes a cover for the length of the conveyor to reduce dust, and motor specifications to reduce industrial noise levels; • where appropriate, vegetated buffer zones (100 m or minimum of 30 m; pending topography constraints) will be maintained between Project infrastructure and wetlands, creeks, and streams to the best extent possible; • as required by the *Weed Control Act and Regulations*, all identified noxious and invasive weed species populations will be controlled prior to any site disturbance and mine operation to prevent the further spread of weeds. Noxious weed management will occur in compliance with R&R/03-4 Weeds on Industrial Development Sites (Alberta Environment 2003b); • as the presence of artificial lighting can potentially affect bird and bat use of nearby habitats, Benga has developed a visual impact mitigation plan that reduces stray and non-essential artificial lighting to minimize wildlife effects and that will comply with OH&S safety requirements; • to mitigate the potential effects of sensory disturbance (acoustic and visual) on effective habitat availability in the southeast portion of the Gold Creek valley, Benga will install and maintain a 15-m tall earth berm along the eastern edge of the south disposal area. The earth berm will be constructed/maintained during the day-time when required and will grow in elevation as the height of the disposal area increases; and • sensory disturbance from the active mine site will be further mitigated through the use of mufflers on all internal combustion engines, utilizing mine pit topography to shield noise generated from haul trucks, and conducting blasting during daylight hours. The following general wildlife mitigation measures will be implemented to minimize potential disruption to daily and seasonal wildlife movements: • a minimum of six wildlife crossings (underpasses and overpasses) will be incorporated into the design of the coal conveyor (the conveyor route is approximately 5.4 km in length); • these will be strategically placed in locations that will maximize wildlife use (*e.g.*, presence of well used trails, suitable habitats, and terrain features such as valleys and depressions that act as natural crossings); • additional pre-disturbance surveys will be conducted to identify important wildlife habitats and trails along the access road and conveyor corridor; • natural underpasses using topography are preferred; • above ground crossings may be required when topography isn't favourable, conveyor will likely be raised higher above the ground to allow wildlife movement under it; • surface water management ponds and ditches located in undisturbed areas of the Project footprint will be designed to allow wildlife to move around or cross safely; • road plowing and grading will be conducted in a manner that does not restrict wildlife from crossing access roads or accessing wildlife crossings; and • measures to control dust and other air emissions (*e.g.*, watering of roads and use of dust suppressants, minimizing engine idling, *etc.*) within the Project footprint will be implemented to minimize effects on adjacent wildlife habitats. Project-specific mitigations targeted to carnivore species have been incorporated into the reclamation planning. Many of these will also support habitat connectivity for migratory birds and species at risk, and include: • minimizing the overall disturbance footprint through the mine planning process; • preserving remnant forest patches in the development areas to provide habitat, habitat connectivity, and hiding cover for wildlife species; • retaining slash and large woody debris in the replaced soil landscape; • planting native shrubs early in the reclamation process to initiate hiding cover; • establishing mixed wood forest stands and high density coniferous tree stands; • providing understory complexity in the reclaimed forests by planting native shrubs such as alder and willow to provide security cover for the carnivores and their prey; • maximizing the amount of ungulate habitat;

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	• prioring to final reclamation, disrupt linear disturbances and sight lines by mounding surface soils, piling brush; and • limiting sight lines by maintaining mature forest stands or by planting high density coniferous stands to act as buffers between roads, project disturbance boundaries and the reclaimed mine areas. Additional mitigations that are specifically targeted to grizzly bears and grizzly bear habitat will also support other carnivores and migratory birds, and include: • maintaining a 100 m undisturbed forested buffer around Blairmore Creek and other riparian corridors; • leaving patches of residual forest within and adjacent to the mine footprint; and • commencing reclamation early on in mine operations by seeding reclaimable areas with plant species favourable to grizzly bear forage, and by planting shrub and tree species that provide suitable cover (*e.g.*, willow, alder, coniferous trees). For raptors, additional relevant mitigations include: • retaining residual patches of essential habitat and habitat features within and adjacent to the mine footprint (*i.e.*, mature poplar trees, tall conifer trees) to provide perches, nest sites, and hide cover; • minimizing loss of mature and old-growth forest habitat and avoid complex, multi-story mixedwood forest where possible; and, • maintaining a 100 m buffer of undisturbed forest around Blairmore Creek, Gold Creek and other riparian corridors. Targeted mitigation measures involving amphibians and amphibian habitat include: • conducting monitoring to identify other habitable ponds and to identify habitat requirements and constraints; • constructing trial breeding ponds; • reclaiming upland habitat adjacent to reconstructed breeding ponds; and • avoiding habitat destruction and alteration outside of the defined Project footprint to the best extent possible. Mitigation measures that will be implemented to reduce wildlife mortality risk include: • all access to the Mine Permit will be controlled; no uncontrolled access will be permitted. Common operational practices will include: • prohibiting use of snowmobiles and ATVs; • prohibiting hunting, harassment, or feeding of wildlife; and • implementing a strictly enforced zero tolerance policy on the use of firearms. • timing vegetation site clearing activities are to occur outside the April 15 to August 31 period to avoid disrupting nesting migratory and resident songbirds and raptors; • in the event that vegetation clearing must occur within the restricted activity period, pre-disturbance nesting surveys will be conducted by experienced avian biologists according to established sensitive species inventory guidelines (Government of Alberta 2013b); • confirm the presence/absence of bats in high quality habitats located within the Project footprint prior to the initiation of any clearing activities and develop a mitigation plan if bats are found; • conduct pre-disturbance denning (bears, marten, *etc.*) and roosting (bats) surveys prior to vegetation clearing and other high-disturbance activities. Consult with AEP as needed to develop appropriate mitigation and management strategies;

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	• conduct pre-disturbance surveys (acoustic surveys and visual searches) to identify wetlands and watercourses used by breeding Columbia spotted frogs and western toads that feed into the protection plans; • Benga commits to supporting active bear management plans associated with the Project. If a site specific plan is required, it will be developed in consultation with AEP personnel as part of the Wildlife Mitigation and Monitoring Plan. The plan is expected to be a comprehensive document that outlines operational strategies and best practices for addressing concerns related to not only bear-human conflicts but potential risks to ungulates and other wildlife resulting from attraction of bears to the area; • develop a Beneficial Management Plan guide to minimize potential Project-specific impacts on migratory birds and their habitat by identifying more site-specific mitigation and monitoring measures following Project approval and in consultation with federal and provincial regulators; • a detailed Waste Management Plan will be developed and implemented prior to construction and operational activities to minimize the attraction of wildlife. Benga will follow the Best Management Practices for camps, fences, and barriers as described in Bear Smart: Best Management Practices for Camps (ASRD 2011), and ensure all waste is stored in wildlife-proof containers and disposed of properly. Some of the waste management and bear awareness/Bear Smart guidelines that will be implemented include: • ensuring food waste, refuse, and other attractants are securely contained in enclosed and approved bear-proof containers and/or facilities (*e.g.*, hard-sided buildings, fenced compounds, and bear-proof transfer station) prior to transportation to a disposal facility to prevent access by scavenging bears; • providing adequate signage to inform employees of the location and proper use of bear-proof storage containers/facilities; • ensuring waste storage containers/facilities are not filled beyond capacity; • ensuring regular inspection and maintenance of waste storage containers/facilities is carried out; • ensuring measures contained in the bear management plan are diligently followed by all employees and contractors; • all on-site staff will receive Bear Awareness Training; and • bear warning signs will be installed to advise staff of locations where problem bears have been reported. • implement an Emergency Spill Response Plan to limit the effect of accidental spills. Spills will be minimized by restricting fuel storage and filling to designated areas that are at least 100 m from wetlands and watercourses as well as Project drainage ditches, sediment control ponds, and pit lakes; • store all hazardous materials, including those used for blasting, in secure areas that are inaccessible to wildlife (e.g., buildings, storage areas surrounded by wildlife-proof fencing). In addition, proper handling and storage of industrial materials and debris within the Project footprint will be maintained to minimize potential risks to wildlife; • develop procedures to clear blasting areas of large mammals or birds prior to blasting; • design water management ponds and drainage ditches, and pit lakes to minimize potential entrapment of wildlife; • develop a strategy to minimize changes in water quality upstream of the mine in conjunction with a water-quality monitoring program; • enforce speed limits (≤50 km/hr) along the main access road and utility corridors, and place signs at identified wildlife crossings to increase driver diligence to minimize wildlife-vehicle collisions. Vehicles will yield to all wildlife crossing the main access road; and • bird collisions with buildings will be mitigated by placing visual markers on windows, and collisions with the proposed power line will be mitigated by installing large 'floats' or other markers. Mitigation measures specific to bat species include: • avoiding direct and indirect impacts to known, primary maternity roosts and hibernacula should any such roosts or hibernacula be located/identified; and • where possible, tree clearing to be planned to avoid the May to August bat summer season.

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
Species at Risk	
Olive-sided flycatcher	As for migratory birds, below.
Little brown myotis	Key mitigation measures for little brown myotis and their habitat include: • time clearing outside of summer bat breeding/rearing window (falls into breeding bird window) • avoid impacts to any known critical habitat • conservation and reclamation plan for pregressive re-establishment of natural habitats for migratory birds, species at risk, and other wildlife • visual impact mitigation plan that reduces stray and non-essential artificial lighting • consult with Environment Canada to develop a beneficial management practice in line with this species' federal recovery strategy
Common nighthawk	As for migratory birds, below.
Short-eared owl	Key mitigation measures for short-eared owls and their habitat include: • clearing outside of the short-eared owl nesting period (April 1 to July 15) whenever possible; otherwise, conduct owl nest searches immediately prior to clearing; • avoid impacts to any known critical habitat; and • other mitigations and commitments as for migratory birds, below.
Migratory Birds	Key mitigation measures for migratory birds and their habitat include: • retaining slash and large woody debris in the salvaged soil to provide microsites for native plant and hide cover and perches for wildlife; and • ensuring reclaimed areas promote the re-establishment of woody species and are on a trajectory for reforestation. • clearing outside of the breeding bird period (April 15 to August 31) whenever possible; otherwise, conduct bird nest sweeps immediately prior to clearing • conservation and reclamation plan for progressive re-establishment of natural habitats for migratory birds, species at risk, and other wildlife • noise mitigation • install and maintain a 15-m tall earth berm along the eastern edge of the south disposal area • speed limit enforcement • visual bird deterrents on power line and windows • visual impact mitigation plan that reduces stray and non-essential artificial lighting • clear blasting areas of birds prior to blasting • consult with Environment Canada to ensure compliance with beneficial management practices or species recovery strategies
	Monitoring • verifying impact predictions and monitoring the effectiveness of mitigation measures; • improving Benga's understanding of the effects of Project construction and operation on wildlife within the WLSA and surrounding area to enable the implementation of adaptive management practices when required; • ensuring compliance with the terms and conditions of the Operating Approval and Project environmental standards once the Project has been approved by AER and CEAA;

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	• Benga will engage regulators (both provincial and federal), First Nations, and traditional land users in discussion regarding approaches to further minimize effects on species of special interest. Such approaches might include continued monitoring, habitat management, and participation in regional initiatives (*e.g.*, the ABMI program to assist with monitoring regional cumulative effects on biological resources). It is important that monitoring efforts are focussed on parameters that are directly related to effects mitigation and that provide opportunities to improve mitigation performance over time. For these reasons, the wildlife monitoring program will initially focus on the following, but will not be limited to: • continuing with and expanding the use of wildlife camera monitoring as a low-disturbance, passive monitoring approach to quantitatively measure changes in use of preferred habitat types by larger species such as grizzly bear, moose, and elk and elusive species of concern such as marten, lynx, and wolverine in the vicinity of the Project footprint; • monitoring breeding birds, raptors, waterbirds, bats, and amphibians using sensitive species inventory guidelines (Government of Alberta 2013b) and recommendations from federal recovery strategies as reclamation progresses over the landscape; • targeted species to include, but not be limited to: o SARA schedule 1 species known to occur in the WLSA: olive-sided flycatcher, common nighthawk, short-eared owl, and little brown myotis; o COSEWIC-listed species known to occur in the WLSA: western toad, barn swallow, American badger, wolverine, grizzly bear, and Baird's sparrow; provincially listed or protected species; and o species of traditional use or value. • implementing a wildlife sighting program for Project personnel / contractors to document wildlife occurrences within the Project footprint during the construction and operations; • construction monitoring to ensure timing windows, setbacks, and other mitigation measures are followed; • monitoring wildlife use of Project-related linear features (*e.g.*, railway loop, transmission line, pipelines, drainage ditches, and ponds) during operation; • monitoring wildlife crossings to determine the efficiency of the structures at maintaining wildlife movements; • monitoring the effectiveness of any access control measures (*e.g.*, gates) on roads and other linear features; • monitoring and documenting all human-wildlife interactions that occur within the Project footprint; and, • post-closure wildlife monitoring linked with the reclamation monitoring program and any other related environmental monitoring programs, continuing until all permit conditions are satisfied and the AER releases the Project site.
Historical Resources	Mitigation • to mitigate potential rail yard impacts, pertinent best management practices, as outlined in the Guidelines for the New Development in Proximity to Railway Operations, will be adhered to. For public access, structures on the inside of the rail loop will be fenced off and will be accessible to the public *via* request. For structures outside of the rail loop, a roadside interpretive pull off will be developed; • disturbance of any further remains located within the proposed rail load out footprint, will be mitigated with controlled excavations to remove the remains; • a mitigation excavation of approximately 80 m2 will occur in the CHPP footprint in advance of Project development to remove all remaining historical resources or representative samples; • historic mine remains will be completely documents and recorded; • historic mining camp remains will be documented in a 20 m^2 excavation; • additional field surveys and documentation, where required.

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	Monitoring • construction monitoring during any excavation activities during the construction of the proposed rail line; • limited construction monitoring is recommended for the Bluff Mountain locale if significant fossil material is recovered from adjacent South Rock Disposal bordering on the north; and • monitoring to document and salvage significant fossil material within the South Rock Disposal Area where the Fernie Formation will be exposed. This documentation and salvage procedure should be completed before dumping of waste commences.
Aboriginal health and socio-economics	Air Quality: • Assuming public access within the Mine Permit Boundary is restricted and the mitigation measures included in the Air Quality report, there is no need for further mitigation of emissions based on the results of the HHRA. Benga's commitments to mitigation of effects on air quality are provided in the Air Quality section of this table. • Due to the potential for limited acute exposure risk within the project footprint, an air quality monitoring program is recommended to confirm that the emitted concentrations of NO2, PM2.5, and PM10 in areas accessible to the general public do not exceed the levels predicted by the air dispersion modelling and thus will not pose a risk of adverse health effects. Water Quality: • The HHRA indicated no risk based on assumption that public access within the Mine Permit Boundary will be restricted and the groundwater and surface water quality mitigations will be implemented; therefore, no additional mitigations are recommended. Benga's commitments to groundwater and surface water mitigation are provided in the respective sections in this table. Noise • Benga's commitments to noise mitigation are provided in the noise section in this table. These mitigations are expected to prevent any health-related effects to Aboriginals from Project noise.
	Benga will carry out the following actions to enhance the socio-economic effects of its Project: • employment and economic opportunities; • Aboriginal Access Management Plan and access control policy; • progressive reclamation, giving consideration to traditional land use; • compensate trappers directly affected by the Project; • promote cultural diversity awareness to Project staff; • support specific community projects; • ongoing consultation with Aboriginal communities; • relevant mitigations proposed to reduce the effects on wildlife and wildlife habitat / fragmentation; • relevant mitigations for air quality and noise; • provision of opportunities collect suitable lodge pole pine for TU ceremonies; and • where practicable, utilize locally collected seed to preserve the legacy of species and of place.

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
Aboriginal physical and cultural heritage	• Site-specific mitigations for historical resources identified in the Historical Resources Impact Assessment • Cultural Site Discovery Contingency Plan • ongoing Aboriginal consultation
Traditional land and resource use	
	Benga recognizes the effects of resource development on traditional land use and culture, and will carry out the following actions to enhance the positive and minimize the adverse effects of its Project: • undertake progressive reclamation, giving consideration to traditional land use, where possible; • provide access to traditional users across the lease; • compensate trappers directly affected by the Project, according to industry standards; • promote cultural diversity awareness to Benga's employees and contractors regarding respect for traditional resource users; • support specific community projects, such as elder and youth programs, where appropriate; and • continue working with Aboriginal communities in the region to ensure that their concerns with respect to traditional land use and culture are continually considered during Project planning and operation.

	Access
	To mitigate issues around access to lands for traditional activities, Benga will:
	• continue to develop an Aboriginal Access Management Plan for construction, operation, and reclamation phases of the Project that includes notification of access to the Project site by authorized users;
	• share a construction timing schedule;
	• implement an access control policy to manage unwanted access to the Project site (based on the level of risk to public safety and the need to protect Project infrastructure);
	• continue to consult with groups that are affected by access restrictions from the Project to:
	  ○ discuss options to facilitate access for land use activities where Aboriginal groups may be affected by the Project; and
	  ○ further identify areas used for hunting or trapping that warrant site-specific or situational mitigation.

	Hunting and Trapping Benga's commitments to mitigate and monitor Project effects on wildlife presence and abundance are provided in the Wildlife section in this table. These mitigations are for wildlife in general, and for specific groups that traditionally hunted or trapped in the Project area (e.g., ungulates such as moose, deer, and elk; furbearers such as lynx, bear, and marten).
	Plant Gathering Benga's commitments to mitigate and monitor Project effects on plants species with traditional use or value are provided in the Vegetation section of this table.
	Fishing Benga's commitments to mitigate and monitor Project effects on fish and fish habitat are provided in the Aquatics, Hydrology, and Water Quality sections of this table.

Table 2D-1 Key Mitigations and Monitoring Commitments for all Project Valued Components

Valued Component	Project Mitigations/Monitoring Commitments
	Trails and Travelways To mitigate potential disturbance to features associated with trails and travelways: • Consultation will continue to further identify trails and travelways that warrant site-specific or situational mitigation; • a Cultural Site Discovery Contingency Plan will be developed and implemented for culturally important sites identified during pre-construction or construction; and • historic features associated with trails and travelways will be mitigated on a case by case basis, as described in Section E.13 Historical Resources. These mitigations are in accordance with regulations of the Alberta Historical Resources Act and/or in compliance with Alberta Culture and Tourism's requirements, and will be adhered to by Benga.
Structure, site or thing of historical, archaeological, paleontological, architectural significance	Key mitigations include: • site-specific mitigations/monitoring for identified features; • implementation of a Cultural Site Discovery Contingency Plan; • promote cultural diversity awareness to Benga's staff; and • ongoing Aboriginal consultation.
Other Identified VCs	
Effects on hunting, recreational and commercial fishing, trapping, gathering, outdoor recreation, use of seasonal cabins, outfitters (not specific to traditional use)	• Develop and implement an Access Control Policy
Changes to the use of waterways and water bodies	• Develop and implement an Access Control Policy
Permanent, seasonal, or temporary residences or camps	• Develop and implement an Access Control Policy
Effects on the health and socio-economic conditions, including the functioning and health of the socio-economic environment, encompassing a broad range of matters that affect communities in the study area in a way that recognises interrelationships, system functions and vulnerabilities (not specific to Aboriginal health and socio-economics)	Key mitigations: • employee health and safety and emergency response; • enforced workplace policies with regards to alcohol and drug use, and illegal activities; • employee assistance plan; • supporting local programs and initiatives; and • cooperate with service providers (*e.g.* health, social, education), government, and other industrial operators in the region to assist in addressing effects of its project and resource development in general by ongoing stakeholder consultation to monitor project effects and associated mitigation measures.
Effects on physical and cultural heritage, including structures, sites, or things of historical, archaeological, paleontological, or architectural significance (not specific to traditional heritage).	• Develop and implement an Access Control Policy; • Implement a Cultural Site Discovery Contingency Plan; and • Site-specific mitigations stated in the Historical Resources Impact Assessment.