

May 3, 2019

By email only

Mr. Martin Ignasiak
Partner, Osler, Hoskin & Harcourt LLP
<contact information removed>

Subject: Additional Information Required from Benga Mining Ltd. For the Grassy Mountain Coal Project

Dear Mr. Ignasiak:

The Joint Review Panel (the Panel) is reviewing the information submitted by Benga Mining Limited (Benga) for the Grassy Mountain Coal Project (the Project) as well as considering comments received in response to the public comment period which ended on January 21, 2019.

The purpose of the Panel's review is to determine whether the information provided by Benga is complete for the purposes of the Environmental Impact Assessment report and to determine whether the information provided is sufficient to proceed to the public hearing.

Based on its review to date, the Panel has determined that additional information is required to complete the environmental impact assessment, and in order to meet the requirements outlined in the Joint Review Panel Agreement for the Project and the Panel's Terms of Reference, before proceeding to a hearing. The attachment to this letter contains requests for additional information related to human health and Indigenous rights, land use, and culture. In some cases, components of the requested information may be documented throughout several section of documents in the August 2016 Environmental Impact Assessment and nine addenda. It would be helpful to the Panel and the other participants, for Benga to present the information in a single, comprehensive, easily read response that compiles both the information presented to date and any newly requested information.

The Panel's review is continuing and additional requests for information related to other disciplines will be issued in a series of packages in the coming weeks. The Panel currently anticipates its review will be complete and the additional information requests will be provided to Benga by May 14, 2019. The Panel recommends that Benga wait to provide responses to this package, and all forthcoming additional requests until all such requests (packages) have been issued. Once all the additional requests for information are issued, the Panel will request Benga provide an estimated timeline for response.

If you require clarification with respect to these information requests, you are encouraged to contact Tracy Utting, Acting Panel Manager at CEAA.GrassyMountain.ACEE@canada.ca.

Yours truly,

<Original signed by>

Alex Bolton
Chair, Joint Review Panel

cc: Mike Bartlett, Senior Project Manager, Millenium EMS Solutions Ltd.

Attachment: Joint Review Panel Information Request Package #4. May 3, 2019.

Joint Review Panel Information Request Package #4

May 3, 2019

Indigenous Rights, Land Use and Culture

Information Request 4.1

References:

Canadian Environmental Assessment Agency “Technical Guidance for Assessing Current Use of Lands and Resources for Traditional Purposes under the *Canadian Environmental Assessment Act, 2012*”. (December 2015).

Final Environmental Impact Statement Guidelines. (CEAR #11).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Section H – Aboriginal Consultation. (CEAR #42).

Eighth Addendum to the Environmental Impact Assessment. (CEAR #89).

From the Canadian Environmental Assessment Agency to the Joint Review Panel re: Indigenous Groups Participation. (CEAR #147).

Comments from JFK Law Corporation on behalf of Káínai First Nation. (CEAR #184).

Rationale:

The Environmental Impact Statement Guidelines (CEAR #11) require the proponent to assess effects of changes to the environment on Indigenous peoples, including current use of lands for traditional purposes, and provide information to support the assessment of impacts to asserted or established Aboriginal or Treaty rights. The Canadian Environmental Assessment Agency’s “Technical Guidance for Assessing Current Use of Lands and Resources for Traditional Purposes under the *Canadian Environmental Assessment Act, 2012*”¹ was provided to Benga in 2016 to guide the gathering of information and assessment related to the effects of any changes to the environment on Indigenous peoples.

The Technical Guidance specifically notes that there may be a relationship between the effects on the biophysical components of the environment and the effects on the current use of lands and resources for traditional purposes. Such relationships will exist when the use is related to a particular component (e.g. fish). The Technical Guidance further notes that the assessment of a biophysical Valued Component (VC) may inform the assessment of a current use VC however, effects to current use cannot always be entirely captured solely on an independent assessment of biophysical components.

¹ Available online: Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under the *Canadian Environmental Assessment Act, 2012*. <https://www.canada.ca/en/environmental-assessment-agency/services/policy-guidance/technical-guidance-assessing-current-use-lands-resources-traditional-purposes-under-ceaa-2012.html>

Benga's assessment of current use relies entirely on the assessment of effects on biophysical VCs, as described by Benga in Table H.2.2-1 (CEAR #42). There are no identified VCs specific to current use in the updated EIA that are assessed in accordance with Technical Guidance.

For example, for Káínai First Nation, the characterization of residual effects is titled 'hunting' but the assessment presents only data for wildlife VCs, Benga states "the Project is not expected to have measureable effects on the long term abundance, distribution, and sustainability of species hunted by Káínai Nation" (Section H - CEAR #42, CEAR #184). It is unclear what criteria are used for characterization of residual effects and significance, only criteria for wildlife VCs have been defined. No discipline-specific assessment criteria has been provided for current use of lands and resources in Appendix 2 of Addendum 8 (CEAR #89).

In Section 15.2.5.1.3 of the Cumulative Effects Assessment, provided in Appendix A-1 of Addendum 8 (CEAR #89), Benga states: "Aboriginal groups' experience of land use within the range of visual and noise changes from the Project may be altered due to Project noise and visual disturbance. As a result, the value and importance of physical and cultural heritage sites to Aboriginal groups in the area may be affected." Although Benga considers "experience of land use" with respect to cumulative effects, experience of land use is not considered for project-effects to current use or physical and cultural heritage, nor is it a component of any of the Aboriginal valued components. Sensory disturbance from the Project could reasonably affect Indigenous groups' experience in the context of current use activities such as hunting, trapping, fishing and plant gathering, as well as cultural and physical heritage.

In addition to the above, the EIS Guidelines (CEAR #11) note that the list of Indigenous groups may change as more is understood about the environmental effects and components of the Project. The EIS Guidelines indicate that the Agency reserves the right to alter the list of Indigenous groups and that the proponent must engage as additional information is gathered during the assessment. The proponent is expected to provide information on any additional groups to the Agency or review panel at the earliest opportunity.

Recent correspondence from the Agency (CEAR #147) indicated that three additional Indigenous groups have been included on the list of groups to be consulted for this Project:

- Louis Bull Tribe
- Montana First Nation
- Ermineskin Cree Nation

Information Request:

Provide an updated assessment of potential effects of the Project on Indigenous people using all traditional land use and related studies completed to date for the Project including any updated information contained in Addenda 1-9, traditional land use studies, cumulative effects assessments, consultation tables, and submissions to the Joint Review Panel (the Panel) directly from Indigenous groups. For each Indigenous group specified in the EIS Guidelines as well as those specified in CEAR #147 include:

- a) an updated assessment of the potential adverse effects to the environment for all biophysical valued components that have been directly or indirectly identified by Indigenous groups in Traditional Land Use and related studies. Include a description of any necessary changes to the ecological and social context, residual effects, conclusions and proposed mitigation measures as a result of the consideration of such studies.

- b) a completed assessment of the effects of the Project on current use of lands and resources for traditional purposes following the Agency's "Technical Guidance for Assessing Current Use of Lands and Resources for Traditional Purposes under the *Canadian Environmental Assessment Act*, 2012". At a minimum, this assessment should focus on resources, access, use and experience and include the following:
- i. a description of the presence and distribution of traditional resources and traditional land and resource use areas within the LSA and RSA, including historic, current, and intended future uses;
 - ii. explanation of the relative importance of identified resources, importance of access to these resources and preference for use of these traditional land and resource use areas;
 - iii. specific consideration of the effects of the Project on location, means and timing of uses of lands and resources for traditional purposes within the LSA and RSA based on traditional land uses identified by Indigenous groups;
 - iv. identification of where Project activities may affect the traditional use for land-based activities such as hunting, fishing, medicine gathering, plant harvesting, trailways, and waterbodies identified by Indigenous groups;
 - v. a description of pathways of effects to traditional resources and land use identified by Indigenous groups in the LSA and RSA. Pathways of effects may include Project interactions with, or effects on, resources, access, and experience and should illustrate the interconnectedness between the biophysical environment, ceremonial practices, and community well-being;
 - vi. a description of whether or how evaluation criteria and thresholds for significance were defined in collaboration with Indigenous groups;
 - vii. a consolidated list of mitigation measures related to current use of lands and resources for traditional purposes that Benga commits to implement, should the Project be approved. Include mitigation measures within the LSA and RSA as well as mitigation measures for specific uses, practices or activities that occur outside of the boundaries of the RSA where a potential effect of the Project may occur;
 - viii. proposed monitoring and follow-up measures;
 - ix. the residual effects, significance conclusions and rationale for such conclusions using evaluation criteria and definition of significance, specific to current use VCs and considering mitigation measures listed above;
 - x. an assessment of the potential to return affected areas to pre-disturbance conditions to support traditional practices; and
 - xi. identification of where the views of Indigenous groups have been taken into account in the conclusions or the views of Indigenous groups on the conclusions separately where they differ.

Information Request 4.2

References:

Canadian Environmental Assessment Agency “Technical Guidance for Assessing Current Use of Lands and Resources for Traditional Purposes under the *Canadian Environmental Assessment Act, 2012*”. (December 2015).

Canadian Environmental Assessment Agency “Technical Guidance for Assessing Physical and Cultural Heritage or any Structure, Site or Thing that is of Historical, Archeological, Paleontological or Architectural Significance under the *Canadian Environmental Assessment Act, 2012*”. (March 2015)

Final Environmental Impact Statement Guidelines. (CEAR #11).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Section H – Aboriginal Consultation. (CEAR #42).

Ninth Addendum to the Environmental Impact Assessment. (CEAR #185).

Ktunaxa Nation Rights and Interests Study in relation to the Grassy Mountain Coal Project. (CEAR #189).

Rationale:

In Table H.2.2-1 of the updated EIA (CEAR #42), Benga identified potential effects of the Project on Aboriginal physical and culture heritage as disturbance to physical and cultural heritage, change in access to physical and cultural heritage and change to cultural value or importance associated with physical and cultural heritage. However, the described “associated valued components” which are used to complete the assessment are limited to historical resources land and resource use.

Section 5(1)(c) of the CEAA 2012 states that with respect to Aboriginal peoples, an effect occurring in Canada of any change that may be caused to the environment on...physical and cultural heritage...and any structure, site, or thing that is of historical, archaeological, paleontological or architectural significance are to be taken into account in the assessment. Furthermore, the “Technical Guidance for Assessing Physical and Cultural Heritage or any Structure, Site or Thing that is of Historical, Archeological, Paleontological or Architectural Significance under the *Canadian Environmental Assessment Act, 2012*”² states that, the heritage value of a resource is embodied in tangible and/or intangible character-defining elements. These elements include the materials, forms, location, spatial configurations, uses and cultural associations or meanings that embody the heritage value of a cultural resource, which must be retained to preserve that value.

Correspondingly, Section 6.3.4 of the EIS Guideline (CEAR #11) requires Benga to describe and analyze changes to the environment caused by the Project. It also requires consideration of how changes to the environment caused by the Project will affect the cultural value or importance associated with physical and cultural heritage, and the current uses of land and resources for traditional purposes (e.g., inter-generational teaching of language or traditional practices, communal gatherings) and indirect effects such as avoidance of the area due to increased disturbance (e.g., noise, presence of workers).

² Available online: Technical Guidance for Assessing Physical and Cultural Heritage or any Structure, Site or Thing that is of Historical, Archeological, Paleontological or Architectural Significance under the *Canadian Environmental Assessment Act, 2012*. <https://www.canada.ca/en/environmental-assessment-agency/services/policy-guidance/technical-guidance-assessing-physical-cultural-heritage-or-structure-site-or-thing.html>

No discipline specific assessment criteria has been provided for current use of lands and resources in Appendix 2 in Addendum 8 (CEAR #89).

Submissions from Indigenous groups refer to the importance of spiritual legends and oral stories regarding the Project area that depict individual, Indigenous group's history and travel routes (CEAR #185, #189). Benga has not considered the intangible aspects of culture including the experience related to physical and cultural heritage, and the importance of an interconnected landscape. Physical and cultural heritage is not only associated with an individual physical site, but also with the experience lived by Indigenous groups in those areas, and the importance of the landscape as a whole. It is not sufficient to mention how many sacred sites will be disturbed by the Project, rather a description and analysis of the importance of the connections to the landscape and the experience embodied in physical and cultural heritage is necessary. The following are examples of spiritual activities and sites that should be considered: vision quests, meditation sites, sun dances, pipe ceremonies and harvesting. Other examples within the Project development area include locations where the following items were detected: fire broken rocks, pottery, medicine wheels, stone effigies, artifact scatters or deposits, arrowheads, pipes, carvings, bone piles, human remains, water and a healing sulphur spring.

In addition, the "Technical Guidance for assessing the Current Use of Lands and Resources for Traditional Purposes under the *Canadian Environmental Assessment Act, 2012*", indicates that uses that may have ceased due to external factors should also be considered if they can reasonably be expected to resume once conditions change. The Modern Buffalo Treaty as mentioned by the Ktunaxa Nation Council (CEAR #189) includes as an objective to restore and steward the return of bison within the animal's historic range. This could have implications for the Project area and should be incorporated into the analysis as this may impact Indigenous physical and cultural heritage.

Information Request:

Provide, an updated assessment of potential effects of the Project on Indigenous people using all traditional land use and related studies completed to date for the Project including any updated information contained in Addenda 1-9, traditional land use studies, cumulative effects assessments, consultation tables, and submissions to the Panel directly from Indigenous groups. For each Indigenous group specified in the EIS Guidelines, as well as those specified in CEAR #147, provide a description and analysis of how Benga has assessed the connections to the land and the experience embodied in physical and cultural heritage, and how changes to the environment caused by the Project will directly and indirectly affect the tangible and intangible value of the physical and cultural heritage of Indigenous peoples. This should include:

- a) a completed assessment of the effects of the Project on current use of lands and resources for traditional purposes following the Agency's "Technical Guidance for Assessing Physical and Cultural Heritage or any Structure, Site or Thing that is of Historical, Archeological, Paleontological or Architectural Significance under the *Canadian Environmental Assessment Act, 2012*". At a minimum, this assessment should focus on resources, access, use, and experience and include the following:
 - i. a description of the presence and distribution of lands and resources within the LSA and RSA that have been identified by Indigenous groups as having cultural importance;
 - ii. a description of the cultural importance of identified structures, sites or things to Aboriginal heritage including tangible and intangible context and consideration of undisturbed or contiguous cultural landscape features;

- iii. specific consideration of the effects of the Project on location, means and timing of uses of cultural heritage lands, structures, sites, etc. within the LSA and RSA based on current and traditional land uses identified by Indigenous groups;
 - iv. identification of where Project activities may affect the access and use of the Project area for cultural or spiritual activities and the intergenerational transmission of knowledge.
 - v. an analysis of how the Project is expected to impact the intactness of the cultural landscape from the perspective of oral or ceremonial legends and Indigenous stories;
 - vi. a description of pathways of effects to physical and cultural heritage resources identified by Indigenous groups in the LSA and RSA. Pathways of effects may include Project interactions with, or effects on, tangible and intangible cultural heritage resources, access, and experience;
 - vii. a description of whether or how evaluation criteria and thresholds for significance were defined in collaboration with Indigenous groups;
 - viii. a consolidated list of mitigation measures related to cultural and physical heritage that Benga commits to implement, should the Project be approved. Include mitigation measures within the LSA and RSA as well as mitigation measures for specific uses, practices or activities that occur outside of the boundaries of the RSA where a potential effect of the Project may occur;
 - ix. proposed monitoring and follow-up measures;
 - x. the residual effects, significance conclusions and rationale for such conclusions using evaluation criteria and definition of significance specific to cultural and physical heritage VCs and considering mitigation measures listed above;
 - xi. an assessment of the potential to return affected areas to pre-disturbance conditions to support cultural and spiritual activities; and
 - xii. identification of where the views of Indigenous groups have been taken into account in the conclusions or the views of Indigenous groups on the conclusions separately where they differ.
- b) an analysis of potential impacts of the Project on the Modern Buffalo Treaty's objective to honour, recognize, and revitalize the time immemorial relationship Indigenous people have with Buffalo. This should include commentary from biophysical, current use, and cultural and physical heritage perspectives.

Information Request 4.3

References:

Final Environmental Impact Statement Guidelines. (CEAR #11).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Section F – Conservation and Reclamation Plan. (CEAR #42).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Section H – Aboriginal Consultation. (CEAR #42).

Agreement to Establish a Joint Review Panel for the Grassy Mountain Coal Project Between the Minister of the Environment, Canada and the Alberta Energy Regulator, Alberta (Including Terms of Reference). (CEAR #80).

Eighth Addendum to the Environmental Impact Assessment. Appendix A-1 – Cumulative Effects Assessment. (CEAR #89).

Comments from JFK Law Corporation on behalf of Káínai First Nation. (CEAR #184).

Ninth Addendum to the Environmental Impact Assessment. (CEAR #185).

Ktunaxa Nation Rights and Interests Study in relation to the Grassy Mountain Coal Project. (CEAR #189).

Comments from the Tsuut'ina Nation. (CEAR #192).

Rationale:

The EIA Terms of Reference (CEAR #80) requires the assessment to include consideration of comments received from Indigenous groups and peoples during the environmental assessment. The EIS Guidelines further state that the proponent will incorporate into the EIA the community knowledge and Aboriginal traditional knowledge to which the proponent has access or that is acquired through Indigenous and public engagement activities. It is important to recognize that traditional knowledge goes beyond current use and includes any information pertaining to observations of the environment.

While Benga references Aboriginal traditional knowledge in the EIA and mentions that it was incorporated into the EIA and the assessment of potential effects to Indigenous groups (CEAR #42), the EIA does not clearly demonstrate the use of traditional knowledge in supporting the analysis of potential environmental effects.

The “Technical Guidance for assessing the Current Use of Lands and Resources for Traditional Purposes under the *Canadian Environmental Assessment Act, 2012*” states that a VC represents an environmental element of an ecosystem that is identified as having scientific, social, cultural, economic, historical, archaeological or aesthetic importance. The value of an ecosystem component may be determined based on cultural ideals or scientific concern. Section 5 of the EIS Guidelines (CEAR #11) requires that the EIA document the VCs suggested by Indigenous groups, whether they were included and the rationale for any exclusions.

Section H of the EIA (CEAR #42) presents Benga’s assessment of potential effects on Aboriginal valued components. Table H.2.2-1 identifies the ‘Aboriginal valued components and subcomponents, potential effects to Aboriginal interests’, and ‘associated valued components’ which include: wildlife, land and resource use, aquatics/fisheries, vegetation, historical resources, human health, and socio-economics. In the same section, Benga states that: “[...] culturally important species identified in the TK/TU study reports and through consultation, informed the selection of valued components from the vegetation and wildlife assessment sections.” From this statement, it is unclear whether Benga considered traditional knowledge / traditional use (TK/TU) information beyond the selection of valued components for vegetation and wildlife, and whether TK/ TU was used to select those valued components identified as ‘Aboriginal Valued Components’.

In Addendum 9 Káínai First Nation notes that the valued components they proposed were not considered, but rather Benga chose surrogate VCs (CEAR #185). In their respective technical reviews,

Ktunaxa Nation Council (CEAR #189) and Tsuut'ina Nation (CEAR #192) have also expressed concern with the selection and assessment of VCs.

Benga has also stated the Conservation and Reclamation Plan and Closure Plan were developed with input from extensive public and Aboriginal engagement (CEAR #42), yet there is no explanation as to how traditional knowledge was considered in the design of the plan. In addition, Indigenous groups have expressed concern with the proposed reclamation landscape and its suitability for traditional uses (CEAR #178, #184, #192).

Information request:

- a) Describe how traditional knowledge and traditional use was used in the selection of Aboriginal valued components, as well as 'associated valued components', including for land and resource use, aquatics/fisheries, vegetation, historical resources, human health, socio-economics and wildlife VCs.
- b) Provide a consolidated list of the VCs suggested by each Indigenous group that were not selected as Aboriginal valued components and a rationale for their exclusion.
- c) Explain how the Aboriginal valued components selected by Benga are representative of elements of importance raised by Indigenous groups.
- d) Demonstrate how traditional knowledge and traditional use information contributed to Benga's approach to the collection of baseline information and TK/TU was considered as a source of information in the assessment of effects for all VCs. Provide an explanation of how different knowledge or perspectives were taken into account. This can be done through providing examples of (including but not limited to) mitigation measures, monitoring plans, selection of species etc.
- e) Discuss how traditional knowledge and traditional use (including cultural and spiritual values, cultural transmission, and intergenerational knowledge) was considered in the selection of spatial and temporal boundaries for Project effects as well as cumulative effects.
- f) Describe how end land-use objectives will be informed by traditional knowledge, based on direct input from Indigenous groups, and whether end land-use objectives are intended to meet the needs and desires of Indigenous groups in addition to regulatory requirements.
- g) Describe how Benga collaborated with Indigenous groups to integrate traditional knowledge and traditional use into draft management plans including the Conservation and Reclamation Plan, the Closure Plan, the Aboriginal Access Management Plan and the Cultural Site Discovery Contingency plan.

Information Request 4.4

References:

Canadian Environmental Assessment Agency interim Technical Guidance "Assessing Cumulative Environmental Effects under the *Canadian Environmental Assessment Act, 2012*". (March 2018).

Canadian Environmental Assessment Agency "Technical Guidance for Assessing Current Use of Lands and Resources for Traditional Purposes under the *Canadian Environmental Assessment Act, 2012*". (December 2015).

Canadian Environmental Assessment Agency “Technical Guidance for Assessing Physical and Cultural Heritage or any Structure, Site or Thing that is of Historical, Archeological, Paleontological or Architectural Significance under the *Canadian Environmental Assessment Act, 2012*”. (March 2015)

Canadian Environmental Assessment Agency interim Technical Guidance “Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the *Canadian Environmental Assessment Act, 2012*. (March 2018)

From the Canadian Environmental Assessment Agency to Benga Mining Limited re: Comments on the conformity (Package 1) of the Environmental Impact Statement submitted for the proposed Grassy Mountain Coal Project. (CEAR #33).

From the Canadian Environmental Assessment Agency to Benga Mining Limited re: Request for Additional Information for the Environmental Impact Statement for the Grassy Mountain Coal Project. (CEAR #43).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Section E - Environmental Assessment. (CEAR #42).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Section H - Aboriginal Consultation. (CEAR #42).

From the Canadian Environmental Assessment Agency to Benga Mining Limited re: Request for Additional Information (Package 4) for the Environmental Impact Statement for the Grassy Mountain Coal Project. (CEAR #60).

From the Canadian Environmental Assessment Agency to Benga Mining Limited re: Request for Additional Information (Package 5) for the Environmental Impact Statement for the Grassy Mountain Coal Project. (CEAR #77).

From the Joint Review Panel to Benga Mining Limited re: Additional Information Required from Benga Mining Limited by the Joint Review Panel for the proposed Grassy Mountain Coal Project. (CEAR #86).

Eighth Addendum to the Environmental Impact Assessment. Appendix A-1 – Cumulative Effects Assessment. (CEAR #89).

Ninth Addendum to the Environmental Impact Assessment. (CEAR #185).

Rationale:

Previous requests from the Canadian Environmental Assessment Agency on cumulative effects (AIR #16 in CEAR #33, AIR #26 in CEAR #43, AIR #2 in CEAR #60 and CEAA-R2-IR-5 in CEAR #77), have resulted in the submission of additional information and a ‘stand-alone’ cumulative effects assessment document provided as Appendix A-1 to Addendum 8 (CEAR #89).

Section 15 of Addendum 8 (CEAR #89) contains cumulative effects information for Indigenous groups, including Benga’s cumulative effects assessment with respect to current use of lands and resources for traditional purposes and Aboriginal cultural and physical heritage. This cumulative effects assessment however relies on the consideration of residual effects to biophysical VCs and ‘associated valued components’ and does not directly assess effects to Aboriginal VCs, or intangible components such as consideration of experience, culture, governance, knowledge and other factors.

Indigenous groups noted, for Aboriginal VCs, Benga did not substantiate its reasoning with respect to conclusions on the significance of effects (CEAR #178, #192). In addition, Addendum 8 (CEAR #89) appears to be lacking a clear framework for the criteria to be used in the cumulative effects assessment on current use of lands and resources for traditional purposes and physical and cultural heritage.

An update to the cumulative effects assessment that is specific to effects to Indigenous people including current use of lands and resources for traditional purposes and physical and cultural heritage is required support the Panel's mandate under CEAA 2012 and in light of the other information requests in this Package.

Information Request

- a) Provide an updated cumulative effects assessment for the current use of lands and resources for traditional purposes and physical and cultural heritage, including any updated information contained in Addenda 1-9, Traditional Land Use studies, Cumulative Effects Assessments, consultation tables, submissions to the Panel directly from Indigenous groups, and work done in response to the other information requests posed by the Panel. As stipulated in previous requests, use the applicable Canadian Environmental Assessment Agency guidance to complete an assessment, including the interim Technical Guidance for "Assessing Cumulative Environmental Effects under the *Canadian Environmental Assessment Act, 2012*"³, the interim Technical Guidance for "Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the *Canadian Environmental Assessment Act, 2012*"⁴, the "Technical Guidance for Assessing the Current Use of Lands and Resources under the *Canadian Environmental Assessment Act, 2012*", and "Technical Guidance for Assessing Physical and Cultural Heritage or any Structure, Site or Thing that is of Historical, Archeological, Paleontological or Architectural Significance under the *Canadian Environmental Assessment Act, 2012*".
 - i. summarize the residual effects from the Project that are carried over to the cumulative effect assessment that may have changed in response to IRs contained in this and other packages. Where Indigenous groups commented on the choice of temporal and spatial boundaries selected by Benga, consider inclusion of these comments in the updated assessment, or provide a discussion on how the selection of boundaries remains justified for the purpose of the environmental assessment of the Project;
 - ii. as was done in Appendix 2, Table 22A of Addendum 8, clearly outline how the criteria for cumulative effects related to the current use of lands and resources for traditional purposes and physical and cultural heritage were defined. Describe how these criteria inform the assessment of significance. Demonstrate how the information available to Benga from Indigenous groups informed the criteria ratings and the conclusion regarding significance. Describe the approach used by Benga to assess likelihood only in cases where an effect is assessed as significant.

³ Available online: Interim Technical Guidance "Assessing Cumulative Environmental Effects under the *Canadian Environmental Assessment Act, 2012*". <https://www.canada.ca/en/environmental-assessment-agency/services/policy-guidance/assessing-cumulative-environmental-effects-ceaa2012.html>.

⁴ Available online: Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the *Canadian Environmental Assessment Act, 2012* <https://www.canada.ca/en/environmental-assessment-agency/services/policy-guidance/determining-project-cause-significant-environmental-effects-ceaa2012.html>.

Information Request 4.5

References:

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Appendix 7d (i) – Aboriginal Access Management Plan Framework. (CEAR #42).

Fifth Addendum to the Environmental Impact Assessment. (CEAR #69).

Rationale:

The Aboriginal Access Management Plan Framework (CEAR #42) states that it provides a framework for the proposed Aboriginal Access Management Plan (AAMP) for the Grassy Mountain Coal Project. The plan will apply to the construction, operation and reclamation phases of the Project. The key objectives of the AAMP are to:

- identify protocols for early notification of project activities;
- control access to protect project facilities and components;
- reduce effects of increased access or change in access to key habitat including culturally important wildlife habitat;
- identify alternate locations for maintaining access to culturally important harvesting species;
- control access to private lands; and
- provide information about the planning process for the ongoing reclamation and the ultimate closure of the Project.

In response to SIR #55 of Addendum 5 (CEAR #69), Benga indicates that an AAMP is being developed and will be finalized after discussion with Indigenous groups during the first half of 2018 including final access control points and procedures. In addition, Benga provides examples of how it may manage access to the mine permit boundary. A more detailed version of the AAMP is required to understand how the potential effects of the Project on current access to lands and resources for traditional purposes will be mitigated.

Information Request:

- a) Provide an updated draft of the AAMP including a framework for developing and amending the details of the AAMP in the future.
- b) For each Indigenous group that would be acknowledged access under the AAMP, provide a detailed description (and maps, if possible) illustrating how the access to, through or around the Project site for that group is predicted to change. Use the TLU studies, CEA and any other traditional knowledge provided to the Proponent, to determine whether access to current use and physical and cultural heritage locations will be restricted by overlaying current use, active zones of the Project area and Project components to demonstrate which areas and associated resources will be affected for each Indigenous group.
- c) Identify any management actions proposed to either facilitate or restrict access by Indigenous groups.
- d) Provide evidence of the efficacy of access management plans in mitigating effects to current use of lands and resources for traditional purposes and discuss how Benga will incorporate lessons learned from those examples into the Aboriginal Access Management Plan for the Project.

Information Request 4.6

References:

Final Environmental Impact Statement Guidelines. (CEAR #11).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Section H – Aboriginal Consultation. (CEAR #42).

Agreement to Establish a Joint Review Panel for the Grassy Mountain Coal Project Between the Minister of the Environment, Canada and the Alberta Energy Regulator, Alberta (Including Terms of Reference). (CEAR #80).

Comments from JFK Law Corporation on behalf of Káínai First Nation. (CEAR #184).

Comments from the Tsuut'ina Nation. (CEAR #192).

Rationale:

The Panel is mandated to consider and include in its report, the effects of the Project on asserted or established Aboriginal or Treaty rights, to the extent the Panel receives such information as provided in Part III (CEAR #80).

The Panel must also invite Indigenous groups and peoples to provide information related to:

- the nature, scope, location and extent of asserted or established Aboriginal or Treaty rights that could be impacted by the Project,
- the potential adverse environmental effects and the potential impacts that may be caused by the Project on asserted or established Aboriginal or Treaty rights,
- any potential adverse effects that may be caused by the Project on the health, social or economic conditions of Indigenous people,
- any measures proposed to avoid, mitigate or accommodate the potential adverse environmental effects of the Project and the potential adverse impacts on asserted or established Aboriginal or Treaty rights,
- cumulative environmental effects and cumulative impacts to asserted or established Aboriginal or Treaty rights and related interests,
- historic, current and intended future uses of lands and resources, and
- information on determining thresholds for significance of environmental effects as defined under s. 5 of CEAA 2012, and for severity of impacts to asserted or established Aboriginal or Treaty rights, including Indigenous perspectives and criteria.

The Panel may also:

- receive information in this regard provided by the proponent, government bodies, the public and other interested parties,
- use this information to make conclusions and recommendations that relate to the manner in which the Project may adversely impact asserted or established Aboriginal or Treaty rights as described by Indigenous persons or groups, and
- incorporate any Indigenous perspectives and Traditional Aboriginal Knowledge that it has received into its report.

Information Request:

As such, the Panel invites Benga to provide information to it on the matters which the Panel will also invite Indigenous groups and peoples to address.

The Panel requests that Benga consider the “Methodology for Assessing Potential Impacts on the exercise of Aboriginal and Treaty Rights of the Proposed Frontier Oil Sands Mine” proposed by the Mikisew Cree First Nation and the Canadian Environmental Assessment Agency (Annex A – CEAR #184) in responding to the items below.

Benga should consolidate the response by information received from each Indigenous group, in a manner which considers the criteria listed above. In all cases, the Panel understands that the Proponent is being asked to provide its perspective and views on these matters. If available to Benga, information provided should include the following:

- a) each Indigenous group’s description, if any, of its asserted or established rights (including geographical extent, nature, frequency, timing of exercise of rights) when this information is provided by an Indigenous group to the proponent or available through public records;
- b) each Indigenous group’s description, if any, of the conditions that support each community’s exercise of their rights, including understanding how historic, existing, and approved activities have affected these conditions;
- c) each Indigenous group’s description, if any, of the importance of the Project’s location in relation to the exercise of rights for each Indigenous group;
- d) each Indigenous group’s description, if any, of the potential adverse impacts of each of the Project components and physical activities, in all phases, on asserted or established Aboriginal and Treaty rights based on
 - i. a comparison of the exercise of the identified rights between the predicted future conditions during Project operation and in closure and the predicted future conditions without the Project;
 - ii. identification of the pathways for potential impacts of the Project (positive and negative) on the exercise of rights, accounting for the nature of rights, regional/historic/cumulative impacts, community thresholds, cultural landscape, preferred expression of rights, distribution of benefits/impact equity, and present and future generations;
 - iii. consideration to experience, culture, governance, intergenerational transmission of knowledge and other factors identified as important to the continue practice of rights by the Indigenous group throughout life of the mine;
- e) each Indigenous group’s description, if any, of information for determining thresholds for severity of impacts to asserted or established Aboriginal or Treaty rights, including Indigenous perspectives and criteria.
- f) each Indigenous group’s description, if any, of mitigation measures that specifically address potential impacts to rights and accommodation measures that have been identified through engagement with Indigenous groups.
- g) recommendations, if any, raised by each Indigenous group for mitigating the effects of changes to the environment on Indigenous peoples or for accommodating potential adverse impacts of the Project on asserted or established Aboriginal and Treaty rights;
- h) views, if any, expressed by each Indigenous group on the effectiveness of the mitigation or accommodation measures, including views on residual and cumulative effects;

- i) each group's description, if any, of the effects of changes to the environment on Indigenous peoples or potential adverse impacts on asserted or established Aboriginal or Treaty rights that have not been fully mitigated or accommodated as part of the environmental assessment.

Information Request 4.7

References:

Final Environmental Impact Statement Guidelines. Section 5. (CEAR #11).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Section H – Aboriginal Consultation. (CEAR #42).

Eighth Addendum to the Environmental Impact Assessment. (CEAR #89).

Rationale:

In Section H of the updated EIA (CEAR #42), Benga summarized comments, specific issues, and concerns raised by Indigenous groups and provided responses for each Indigenous groups potentially affected by the Project (with the exception of Shuswap Indian Band and Foothills Ojibway First Nation).

In its response to AER question A.10 in Addendum 8 (CEAR #89), Benga provided "Concerns and Responses Tables" for each of the Treaty 7 First Nations, as prescribed by the Aboriginal Consultation Office. However tables pertaining to Indigenous groups outside of Treaty 7 were not provided to the Panel.

Section 5 of the EIS Guidelines (CEAR #11) states that the EIA will document comments, specific issues, and concerns raised by Indigenous groups and how concerns were responded to or addressed as well as any changes made to the project design and implementation directly as a result of discussions with Indigenous groups.

Information Request:

- a) Provide comments, specific issues, concerns and project recommendations raised by Indigenous groups and how concerns were responded to or addressed for each Indigenous group specified in the EIS Guidelines as well as those specified in CEAR #147 (not only Treaty 7 First Nations) since submission of the updated EIA;
- b) Indicate any changes made to the project design and implementation directly as a result of discussions with Indigenous groups.

Information Request 4.8

References:

Final Environmental Impact Statement Guidelines. (CEAR #11).

Agreement to Establish a Joint Review Panel for the Grassy Mountain Coal Project Between the Minister of the Environment, Canada and the Alberta Energy Regulator, Alberta (Including Terms of Reference). (CEAR #80).

From the Canadian Environmental Assessment Agency to the Joint Review Panel re: Indigenous Groups Participation. (CEAR #147).

Rationale:

The EIS Guidelines (CEAR #11) indicate that the proponent is expected to engage with Indigenous groups that may be affected by the Project, as early as possible in the Project planning process noting that “the proponent will make reasonable efforts to integrate traditional Aboriginal knowledge into the assessment of environmental impacts”. Information gathered through the environmental assessment process and associated engagement by the proponent with Indigenous groups will also be used to inform decisions under CEAA 2012 and is intended to contribute to the Crown’s understanding of any potential adverse impacts of the Project on asserted or established Aboriginal or Treaty rights and the effectiveness of measures proposed to avoid or minimize those impacts.

The Terms of Reference (CEAR #80) state that the Panel shall take into account any community knowledge and Aboriginal Traditional Knowledge (such as, but not limited to, traditional use studies) received during the environmental assessment. The Panel shall also consider and include in its report the effects of the Project on asserted or established Aboriginal or Treaty rights.

Recent correspondence from the Agency (CEAR #147) indicated that three additional Indigenous groups have been included on the list of groups to be consulted for this Project:

- Louis Bull Tribe
- Montana First Nation
- Ermineskin Cree Nation

The EIS Guidelines (CEAR #11) note, with respect to the identified Indigenous groups, that the groups may change as more is understood about the environmental effects and components of the Project and indicates that the Agency reserves the right to alter the list of Indigenous groups that the proponent must engage as additional information is gathered during the assessment.

Furthermore, the EIS Guidelines note that upon receipt of knowledge or information of potential effects to an Indigenous group not listed above, the proponent shall provide that information to the Agency or review panel at the earliest opportunity.

Information Request:

In addition to the information requested in the above IRs, provide the following information for each of the three aforementioned Indigenous groups:

- a) any potential adverse effects that may be caused by the Project on the health, social, or economic conditions of Indigenous people.

Human Health

Information Request 4.9

References:

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Consultant Report #12 - Human Health and Wildlife Screening Risk Assessment. (CEAR #42).

Fifth Addendum to the Environmental Impact Assessment. (CEAR #69).

Eighth Addendum to the Environmental Impact Assessment. (CEAR #89).

Comments from the Government of Canada - Health Canada submission. (CEAR #167).

Rationale:

Health Canada recommended, in their submission to the Panel (CEAR #167), that Benga update the Human Health Risk Assessment (HHRA) with additional information, including the addenda 1-9, Excel data tables of predicted incremental lifetime cancer risks (ILCR), and hazard quotients (HQ) provided since submission of the updated EIA in August 2016.

Furthermore, the updated EIA presents separate inhalation and multi-media exposures (exposures arising from deposition of airborne contaminant on soil, surface water and vegetation) (CEAR #42). Addendum 5 (CEAR #69) confirms that combined inhalation and oral exposures were not considered in the multiple exposure pathway assessment (CEAR #69). Health Canada recommended that multi-media exposure (acute and chronic) be presented as the sum of exposures to a given contaminant by all routes (including inhalation exposure), by which the total exposure is compared to the Toxicological Reference Value (TRV). Health Canada has also noted in question HC-R2-11 in Addendum 8 (CEAR #89) that for HHRA, a target hazard quotient (HQ) of 1 should only be applied to a particular chemical if the risk assessor can demonstrate that all potential on-site and background exposure media and pathways for that chemical have been considered in both the baseline and baseline-plus project exposure estimates. Alternatively, a more conservative target HQ of 0.2 is recommended.

It is difficult to assess the overall impact of the Project on human health when information is provided as separate additions to the original HHRA.

Information Request:

- a) Provide an updated HHRA that fully integrates any information related to human health provided in Addenda 1 through 9, any additional material on the record, and that reflects responses to and incorporation of, all information provided as a result of information requests in this package. This should include, but not be limited to, the revised hazard quotient (HQ) and incremental lifetime cancer risk (ILCR) data tables, updated nitrogen dioxide HQs, and predicted additive HQs and ILCRs. Highlight all the changes from the 2016 HHRA.
- b) In the updated HHRA, provide total exposure estimates (combined inhalation and multi-media exposures) and compare to HQ of 0.2.

Information Request 4.10

References:

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Consultant Report #1 – Air Quality. (CEAR #42).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Consultant Report #7 – Terrain and Soils. (CEAR #42).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Consultant Report #12 – Human Health and Wildlife Screening Risk Assessment. (CEAR #42).

Sixth Addendum to the Environmental Impact Assessment. (CEAR #70).

Eighth Addendum to the Environmental Impact Assessment. (CEAR #89).

Comments from Alistair Des Moulins (CEAR #155).

Comments from Allan Garbutt. (CEAR #158).

Comments from the Government of Canada - Health Canada submission. (CEAR #167).

Rationale:

Coal contains numerous metals and organic compounds, some known to be toxic and others that are potentially toxic. Toxic substances found in coal include polycyclic aromatic hydrocarbons (PAHs) which can act as mutagens, cancer promoters, and endocrine disrupters. Toxic compounds can be leached from coal into water supplies, or be present in dust and be subsequently deposited into soil. Participants have noted concerns with respect to coal dust in Sparwood, BC (CEAR #155) and near the Teck Elkview Operation (CEAR #158).

In response to question IR-HC-6b in Addendum 6 (CEAR #70) Benga indicates that coal dust was included in the calculation of fugitive dust emissions generated from the Project activities, however it appears that coal dust was not considered as a separate contaminant of potential concern within the HHRA (CEAR #42).

In Consultant Report #1 (CEAR #42), Benga states that the primary sources of project fugitive dust emissions will be from mining operations such as drilling, blasting, bulldozing, loading and hauling and dust generation from travel on haul roads. Fugitive dust emissions from all other pit operations were estimated using AP-42 emission factors. In response to HC-R2-4 of Addendum 8 (CEAR #89), Benga re-states that the primary sources of particulate emissions during operations are dust from haul road activity and material handling. Benga does not provide information regarding the expected proportion of fugitive dust that would be coal dust.

Health Canada is of the view that coal dust can be analyzed for its constituent contaminants (e.g. heavy metals, PAHs), such that baseline/background conditions could be used to predict future loadings of contaminants to the environment via dustfall. The bioavailability of coal dust constituents may also need to be considered if coal dust is analyzed. This analysis would help to inform a more complete

understanding of potential human health risk from exposures to contaminants from multiple environmental media (CEAR #167).

In addition, the presence of several siliceous sandstone beds on Grassy Mountain is mentioned in Consultant Report #7, Section B.1, B.2 (CEAR #42), however Health Canada has noted that there is no discussion with respect to silica dust (CEAR #167).

Information Request

- a) Justify how the modelling of fugitive dust emissions, including PM₁₀ and PM_{2.5} from coal mining activities (i.e. coal crushing, waste rock areas, haul roads, coal plant, blasting and train load-out) are conservative by comparing modelling to actual emissions monitoring data, where available, from relevant metallurgical coal mining operations. Include consideration of the expected proportion of total fugitive dust from the Project that would be coal dust.
- b) If the comparison of modelling to actual emissions data shows that the modelling predictions were not conservative with respect to fugitive dust, PM₁₀ and PM_{2.5}, and/or if the proportion of coal dust within total fugitive dust is estimated to be sufficient to affect the hazard associated with total fugitive dust:
 - i. Update Hazard Quotient predictions for PM₁₀ and PM_{2.5}.
 - ii. Revise the proposed mitigation measures that Benga would implement to address higher fugitive dust, including considerations such as pit watering, hydroseeding and wind fencing or provide a rationale why they will not be required.
- c) Provide the list of the constituent contaminants (e.g. heavy metals, PAHs) found in coal dust associated with the Project activities and quantify their proportion, such that baseline/background conditions could be used to predict future loadings of contaminants to the environment via dustfall. Include the bioavailability potential of identified coal dust contaminants in the assessment of impacts to human health.
- d) Provide a qualitative description as to the potential for silica dust from the Project. Include any PM₁₀ and PM_{2.5} emissions as a result of silica dust in the justification of modelling above.
- e) Include coal dust as a contaminant of potential concern in the multimedia pathway assessment of the HHRA (including ingestion) and provide a description of the potential human health effects of coal dust from the Project.

Information Request 4.11

References:

Fifth Addendum to the Environmental Impact Assessment. (CEAR #69).

Eighth Addendum to the Environmental Impact Assessment. (CEAR #89).

Comments from the Government of Canada - Health Canada submission. (CEAR #167).

Rationale:

Health Canada's January 21, 2019 submission to the Panel (CEAR #167) indicated that occupational Exposure Limits (OELs) are intended only for use in occupational scenarios involving healthy adult workers, who may be supplied with personal protective equipment (PPE) to further limit exposure.

Although often based on toxicological principles, the procedures used to develop OELs for protection of adult workers are distinct from the approach used to establish toxicological reference values (TRVs) for protection of the general public. OELs generally assume that healthy adult workers are the individuals requiring protection. Occupational workers are generally exposed for 8 hr/day, 5 days/week. As such, OELs generally do not consider that exposures occur on a continuous (24 hour) or lifetime basis but instead are typically developed for a 40-hour work week and a typical career duration of 35 years. TRVs on the other hand need to consider the protection of all members of the general public including the young, pregnant women, and the elderly.

In Addendum 5 (CEAR #69), and Addendum 8 (CEAR #89) Benga identifies the Project's proximity to sensitive receptors including a hospital, senior's residence, elementary and high schools, and daycares. Nonetheless, Benga has used OELs that are primarily developed for industrial occupational exposure scenarios to assess the risks to the general public. Although Benga has applied a 10-fold safety factor to the OEL to account for this discrepancy, Health Canada indicated that the safety factor may not address the differences between industrial occupational exposures and exposure of the general public, noting a disagreement with whether the TRV is protective of human health, particularly for specific subpopulations such as individuals with G6PD deficiency with respect to naphthalene (CEAR #167).

Health Canada suggested that Benga consider using short-term naphthalene guidelines from other jurisdictions such as the Ontario Ministry of Environment and annual guidelines from Alberta Environment and Parks and British Columbia Ministry of the Environment in addition to other short-term exposure scenarios (for example 8-hour or 24-hour) (CEAR #167).

Information Request:

- a) Re-calculate the hazard quotient (HQ) for naphthalene using a TRV developed for the public, based on available literature and an 8-hour or 24-hour exposure scenario for sensitive subpopulations.

Information Request 4.12

References:

Final Environmental Impact Statement Guidelines. (CEAR #11).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Section E – Environmental Assessment. (CEAR #42).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Section H – Aboriginal Consultation. (CEAR #42).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Consultant Report #5- Surface Water Quality Assessment Report. (CEAR #42).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Consultant Report #12 - Human Health and Wildlife Screening Risk Assessment. (CEAR #42).

Eighth Addendum to the Environmental Impact Assessment. Appendix C3 – Risk-Based Evaluation of Predicted Selenium, Sulphate and Metals. (CEAR #89).

Comments from Timberwolf Wilderness Society. (CEAR #156).

Comments from Sierra Dakin Kuiper. (CEAR #170).

Comments from the Canadian Parks and Wilderness Society - Southern Alberta Chapter. (CEAR #176).

Ktunaxa Nation Rights and Interests Study in relation to the Grassy Mountain Coal Project. (CEAR #189).

Rationale:

The EIS Guidelines (CEAR #11) specify that the proponent will provide, “with respect to Aboriginal peoples, a description and analysis of how changes to the environment caused by the Project will affect: human health, considering, but not limited to, potential changes in air quality, quality and availability of country foods, water quality (drinking and recreational), and noise exposure. When risks to human health due to changes in one or more of these components are predicted, a complete HHRA examining all exposure pathways for pollutants of concern may be necessary to adequately characterise potential risks to human health”. There can be substantial differences between health status of Indigenous and non-Indigenous residents; however, Consultant Report #12 (CEAR #42) summarizes the current health status of residents in the South Zone with no baseline provided regarding the current health status of Indigenous people within this zone.

Section H of the updated EIA (CEAR #42) states on multiple occasions: “in order for [A]boriginal health receptors to be exposed to emissions from the Project, they must come into contact with chemicals of potential concern (COPCs)”. The text goes on to explain that Indigenous groups will not access the area with high risk quotients based on the HHRA as these will be located within the mine boundary. Consequently, Benga concludes that there will be no effects of the Project on Aboriginal health.

Benga stated in Consultant Report #12 that with mitigation, there would be no effects on water quality. As a result, the spatial boundary for the HHRA is based on air quality effects only, together with

locations of nearby communities and “other human activities” (CEAR #42). Benga sampled three historic end pit lakes from July to February 2014 and reported on the water quality in these lakes in Consultant Report #5 (CEAR #42). Benga did not model the proposed end pit lake, which could be substantially different in its physical, chemical and biological characteristics yet stated “the HHRA assumed that there will be no changes in surface water quality for the reclaimed landscape as a result of the end pit lake” (CEAR #42). Benga also states “The Project was assumed to have no direct effect on water quality.....therefore emission (sic) into air were the only Project related chemical source (sic) which required detailed exposure risk assessment in the HHRA”.

Participants have noted contamination of the KooCanusa reservoir in Montana, which lies more than 100 km downstream of the discharge from the five Teck metallurgical coal mines in the Elk Valley (CEAR #156, #170, #176). Participants have also expressed concerns with respect to potential downstream contamination of the Crowsnest River and the Oldman reservoir (CEAR #42 Section G, CEAR #170, CEAR #189). Benga’s risk assessment of selenium does not consider the transport of selenium downstream to the Oldman reservoir, despite potential differential behaviour of selenium in lentic habitats (lake, reservoir, wetlands) where long-term selenium loading of low water concentrations of selenium entering lentic systems can result in increased bioaccumulation in aquatic food chains.

Selenium levels are predicted to remain below Benga’s proposed sulphate-based site-specific water quality objective. However, Consultant Report #5 (CEAR #42) states that selenium is predicted to be above the Alberta guidelines (2µg/L) at all modelled locations by the mid-to-late 2030s and will continue to be elevated during the rest of the operational period and in the post-closure period out to the limit of the modelled time period (2098) and sulphate concentrations in Blairmore Creek will increase steadily with time.

In summary, the HHRA conducted by Benga is incomplete, as it does not consider all the potential pathways of effects on availability of country food, such as bioaccumulation of contaminants in fish, plants, and ungulates due to water and soil contamination and the impacts on Indigenous health within the LSA and RSA. Given the predicted changes in water quality in Blairmore Creek and the potential for downstream transport of COPC, notably selenium, to the Crowsnest River and then the Oldman Reservoir, the HHRA should have included water-based exposure pathways. Furthermore, the potential human health risks associated with the end pit lake in the post-closure landscape requires assessment. Consequently the HHRA should be updated to include the effects of the Project on the availability of country food as well as appropriate mitigation measures specific to each Indigenous group.

Information Request

- a) Provide baseline information on the use of country foods, for each Indigenous group that may be affected by the Project, within the LSA, RSA and an extended RSA that encompasses the Oldman Reservoir. This information should include Indigenous knowledge regarding the most sensitive rights-based receptors.
- b) Provide a revised HHRA that includes an assessment of the effects of the Project on the harvest and consumption of country foods and other resources of importance for each Indigenous group. The revised HHRA should examine the area within the LSA, RSA and an extended RSA that encompasses

the Oldman Reservoir (including water, fish, plants, ungulates and other resources used by Indigenous peoples). The assessment is to include:

- i. an Indigenous-specific conceptual model which describes source-pathway linkages between the Project and Indigenous use of country foods (including water, coal dust, and incidental soil ingestion) and other resources of importance such as berries and medicinal plants;
- ii. project specific mitigation measures aimed at reducing exposure to COPC via country foods during all Project phases;
- iii. a revised risk characterization that goes beyond a contaminant-by-contaminant table of HQs and addresses the cumulative exposure to all COPC from all pathways (inhalation, ingestion, and absorption). Include an assessment of the end pit lake in the post-closure landscape and also of water, fish, plants, ungulates and other resources used by Indigenous peoples in the Oldman Reservoir area;
- iv. a qualitative and quantitative description of the understanding of the overall implications of the Project with respect to toxicological risk to human health from Indigenous use of the LSA, RSA, the Crowsnest River, and the Oldman Reservoir and area; and
- v. a description of any proposed mitigation which may include community-based monitoring and communication designed to support Indigenous confidence in the health of resources or community-based support to reinforce Indigenous harvest and intergenerational knowledge in the Project area.

Information Request 4.13

References:

Agreement to Establish a Joint Review Panel for the Grassy Mountain Coal Project Between the Minister of the Environment, Canada and the Alberta Energy Regulator, Alberta (Including Terms of Reference). (CEAR #80).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Consultant Report #12 - Human Health and Wildlife Screening Risk Assessment. (CEAR #42).

Comments from the Ktunaxa Nation Council. (CEAR #178).

Comments from JFK Law Corporation on Behalf of Káínai First Nation. (CEAR #184).

Comments from the Tsuut'ina Nation. (CEAR #192).

Rationale:

The Panel is mandated, under section 5(1) c of the *Canadian Environmental Assessment Act, 2012* to take into account any change that may be caused to the environment from the Project on the health of Aboriginal peoples. The Terms of Reference state that the Panel shall also take into account Information on the manner in which the Project may adversely impact asserted or established Aboriginal or Treaty

rights and any measures that may reduce or avoid potential impacts to asserted or established Aboriginal or Treaty rights (CEAR #80).

The Human Health Risk Assessment (HHRA) presented in Consultant Report #12 (CEAR #42) does not consider the link between effects to health (both perceived and predicted) and access to, availability of, and quality of country foods and other resources relied upon by Indigenous groups to meaningfully practice culture, traditional uses and exercise rights. As noted by Indigenous groups (CEAR #178, #184 and #192) the HHRA does not provide a robust discussion of the role of country foods and other resources with respect to ceremonial practices and the physical, mental, and spiritual health of Indigenous people.

Information Request

- a) Describe the role and use of country foods and other resources valued by Indigenous groups from a holistic health perspective with respect to the physical, mental, spiritual health and ceremonial practices of Indigenous individuals and communities.
- b) Describe the role and use of country foods with respect to Indigenous food sovereignty (e.g. the re-connection to land-based food and political systems) as it relates to health, wellbeing, governance, and rights.
- c) Explain Benga's plan to provide clear and substantiated information on the benefits and risks of the consumption of country foods in order to mitigate the potential for avoidance of country foods due to perceived health risks.
- d) Describe how both actual and perceived effects of the Project on health can impact Indigenous current use and cultural heritage. Include a discussion of the potential impacts on access and use of preferred areas, opportunities to uphold stewardship, and practice of preferred cultural and spiritual activities (e.g. hunting, fishing, trapping, and gathering).

Information Request 4.14

References:

Eighth Addendum to the Environmental Impact Assessment. (CEAR #89).

Comments from the Government of Canada - Health Canada submission. (CEAR #167).

Rationale:

Country foods were identified as the main contributor for dietary manganese exposure by Benga in HC-R2-11, Addendum 8 (CEAR #89). Levels of manganese in Saskatoon berries from the Project area appear to be elevated relative to the range of background concentrations reported in other types of berries that are sold in Canada included in Health Canada's Total Diet Study, as well as data available for Saskatoon berries collected as part of the Canadian Food Inspection Agency's monitoring surveys (Lim 2012)⁵.

Health Canada (CEAR #167) noted that modelled manganese exposure for adults as a result of the Project exceeds the US EPA's no-observed-adverse-effect-level (NOAEL) and its equivalent to the NOAEL

⁵ Reference in the comments from the Government of Canada - Health Canada submission. (CEAR #167). Available online: <https://www.canada.ca/en/health-canada/services/food-nutrition/food-nutrition-surveillance/canadian-total-diet-study.html>

reported by Finley et al. (2003)⁶. In the case of toddlers, it appears a comparison was made to the NOAEL reported by Finley et al. (2003) which is specific to adults. A toxicological reference value (TRV) specific to toddlers could be derived by expressing the no-observed effect levels (NOELs) on a body weight basis for both toddlers and adults and comparing to estimated exposures on a body weight basis. This would allow for a more accurate determination of the potential health risks associated with manganese in country foods.

If the exposure estimates for Project and baseline conditions provided by the proponent are accurate, Health Canada indicated that contribution of manganese exposure from country foods as a result of project activities appears to be negligible. However, if the manganese concentrations in environmental media are found to significantly increase as a result of Project activities, Health Canada recommended that a monitoring program also be implemented for manganese in country foods, given the existing high apparent background levels of manganese in Saskatoon berries and background exposure estimates are already elevated (CEAR #167).

Information Request:

- a) Derive a TRV specific to toddlers by expressing the NOELs on a body weight basis for both toddlers and adults and compare to estimated exposures on a body weight basis.
- b) Where possible, provide additional consumption information from local Indigenous populations that may inform the consumption patterns of berries from the Project area. Consumption rates used in the EIA should be representative of Indigenous populations that harvest and consume foods from the area impacted by the Project.
- c) Indicate whether monitoring will be implemented for manganese in environmental media (including but not limited to soil, sediment and water). Should the monitoring results suggest a significant increase, indicate whether manganese will be monitored in country foods. If monitoring is not being considered, provide justification as to why it is not necessary.

Information Request 4.15

References:

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Section A – Project Introduction (CEAR #42).

Grassy Mountain Coal Project – Updated Environmental Impact Assessment. Consultant Report #3 – Hydrogeology. (CEAR #42).

Sixth Addendum to the Environmental Impact Assessment. (CEAR #70).

Comments from the Government of Canada - Health Canada submission. (CEAR #167).

Rationale:

⁶ Reference in the comments from the Government of Canada - Health Canada submission (CEAR #167) and available from: https://link.springer.com/chapter/10.1007/978-94-007-4053-2_43

Benga states that municipal water wells are not predicted to have any groundwater quality impacts associated with mine spoil and mining activities (Section A, CEAR #42). However, in Consultant Report #3 (CEAR #42), Benga states that a field survey conducted in Fall 2014 verified that six water wells and two springs are used for domestic purposes.

In Consultant Report #3 (CEAR #42), Benga indicated that the Municipality of Crowsnest Pass obtains its water from groundwater, which is extracted from wells in the alluvial sand and gravel aquifers in the vicinity of the Crowsnest River. All water licences within the RSA are expected to extract groundwater from the alluvial aquifers and not from bedrock aquifers. Consultant Report #3 also noted that mapping of potential alluvial aquifers indicates that an alluvial aquifer may be associated with some portions of Blairmore Creek and Gold creek, and near the confluence with the Crowsnest River. Potential impacts to surface water on these creeks and river due to runoff from the mine could affect water quality in the Municipality of Crowsnest Pass.

A second possible pathway for contaminated groundwater to reach the existing wells is via groundwater transport of contamination in the bedrock aquifers beneath the mine, and beneath the alluvial aquifers. Bedrock groundwater will discharge upwards into the alluvial aquifers and streams.

Furthermore, Benga stated in the response to Health Canada's IR 15d (CEAR #70), that exposure through consumption of groundwater was included in the Human Health Risk Assessment (HHRA). However, groundwater does not appear to be included as a pathway in the HHRA (CEAR #167).

Information Request:

- a) Clarify whether the consumption of groundwater was included in the HHRA as an exposure pathway.
- b) Provide and justify the concentrations used for selenium and other contaminants assumed to be present in the groundwater for the HHRA assessment.
- c) Indicate the likelihood that the six wells and two springs identified in Consultant Report #3 could be affected by the Project. Describe the proposed mitigation measures Benga will implement to ameliorate or replace the water supply if needed.
- d) Provide a revised or updated HHRA which includes groundwater consumption as an exposure pathway. Include both municipal sources and private wells influenced by surface water or bedrock.

Information Request 4.16

References:

Fourth Addendum to the Environmental Impact Assessment. Attachment 2. (CEAR #55).

Fifth Addendum to the Environmental Impact Assessment. (CEAR #69).

Rationale:

In response to IR #25 in Addendum 4 (CEAR #55), Benga examined the frequency and severity of wildfires that are expected to occur during the life of the Project and the resulting potential effects on Valued Components (VCs), mitigation, and reclamation. For the Aboriginal health VC, Benga noted that “reduced air quality during burns will be less frequent” and “air quality may be further reduced during larger fires”. Benga did not however propose changes to mitigation measures for air quality or human health as a result.

In Addendum 5 (CEAR #69), Benga considered potential changes to forest fire regime due to climate change in the assessment of other valued components, such as vegetation and wetlands. Benga stated that “though fire is largely a stochastic process, the modelled changes in climate parameters are expected to increase the area burned each year and in many cases the frequency of fire as well.”

With the increase of area burned each year, particulate matter released in the air will further reduce the air quality predicted for the Project area. Benga did not characterize “reduced air quality during burns” nor indicate whether conclusions with respect to air quality and human health may differ by taking into account the changes to wildfire frequency and severity as a result of climate change in combination with and fugitive dust emissions due to mining activities.

Information Request:

- a) Qualify and characterize the potential adverse effects to air quality from potential project effects in combination with effects on air quality resulting from predicted changes in wildfire frequency and severity due to climate change. Use the modeled projections for future frequency and severity of wildfires provided in response to IR #25 in Addendum 4.
- b) Describe any potential effects on human health resulting from the cumulative interaction of project effects and wildfire effects on air quality. Where data is available, provide information relating to reduced air quality as a result of forest fires in combination with air emissions from relevant metallurgical coal mining operations.
- c) Provide any additional proposed measures to mitigate effects to human health. Provide a rationale if no additional mitigation measures are proposed.