

Our File: EA1516-01

February 8th, 2016.

Note to File

EA1516-01

Howard's Pass Access Road Upgrade Project

Re: Compiled Documents from the Online Review of the Developer's Proposed Terms of Reference.

The Review Board received Selwyn Chihong Mining Ltd.'s Developer's Proposed Terms of Reference (DPToR) on September 16th, 2015 and accepted comments from parties until December 11th, 2015. The Developer provided its responses on Jan 25, 2016 to parties' comments.

The information submitted during the review of the Developer's Proposed Terms of Reference is bundled into this PDF and includes:

- comment letters and attachments from reviewers;
- A table of reviewer comments, the developer's responses, and Review Board staff responses; and,
- the distribution list for the review of the DPToR.

Simon Toogood
Environmental Assessment Officer



DEHCHO FIRST NATIONS

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Kate Mansfield
Mackenzie Valley Environmental Impact Review Board
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Yellowknife, NT X1A 2N7
VIA Email: kmansfield@reviewboard.ca

December 11, 2015

RE: Draft Terms of Reference (ToR) for Selwyn Chihong Mining Ltd (Selwyn) Howard's Pass Access Road Upgrade Project (HPAR)

Mackenzie Valley Environmental Impact Review Board (MVEIRB) has requested comments on the draft Terms of Reference (ToR) for Selwyn Chihong Mining Ltd (Selwyn) Howard's Pass Access Road Upgrade Project (HPAR).

Dehcho First Nations (DFN) has reviewed the ToR for Howard's Pass Access Road Upgrade Project and has comments and recommendations regarding the key lines of inquiry, geographic scope, engagement, valued components, assessment of environmental impacts and cumulative effects, project description for operation phase, management plans, commitments table and ToR concordance table.

1. Key Lines of Inquiry

Key lines of inquiry within the Developers Assessment Report (DAR) are valued components that are considered to be a high priority. Key Lines of Inquiry (proposed by Selwyn) are:

1. Nahanni Caribou Herd: direct and indirect effects on individual caribou and on the caribou herd from road traffic and road access;
2. Accidents and Malfunctions: with the priority focus on risk of spills from hauling concentrates, fuels and mine reagents during mine operation; potential impacts on aquatic and terrestrial ecosystems;
3. National Park Reserves: visitor access to park areas and visitor experience; park heritage and cultural resources; ecological integrity.

4. Benefits and effects on communities: including direct and indirect effects on employment and contracting opportunities; wage and salary income training and skill development; business opportunities and overall community wellness.

DFN approves and is supportive of the key lines of inquiry proposed by Selwyn. Of the key lines of inquiry, the most significant concerns for DFN are impacts from proposed Road Upgrade on the Nahanni Caribou Herd and the benefits and effects on communities.

DFN remains concerned regarding impacts to the Nahanni Caribou Herd from the HPAR, given the known sensitivity of woodland caribou (both boreal and mountain) to anthropogenic disturbance, the general decline of the species across Canada, and the importance of the species to DFN members.

Woodland caribou range in North America has retracted northward and most populations across Canada are now in decline largely due to an increase in development (COSEWIC 2002). Industrial development can affect caribou directly, through conversion of habitat to infrastructure (e.g., roads and production pads), or indirectly, through the behavioral avoidance by caribou of industrial activities and structures (e.g., vehicles, aircraft, and power lines).

In the case of the HPAR project, the Nahanni Caribou Herd's range will be bisected by an all-season road with heavy traffic volumes (200 vehicles per day). DFN's most significant concerns regarding the impacts of the HPAR on the Nahanni Caribou can be categorized as the following:

- Direct injury or mortality
- Avoidance, loss of habitat and habitat effectiveness
- Cumulative effects

Increased wildlife injury or mortality from collisions, hunting or from caribou fleeing from vehicles as a result of the project could occur along the HPAR.

The HPAR could also act as a semipermeable barrier, restricting seasonal movements of the Nahanni Caribou Herd. This may adversely affect their access to seasonally important food sources and areas used as refugia from predators and insects. Avoidance of roadways by caribou is well demonstrated in scientific literature. Dyer et al. (2001) demonstrated that Woodland caribou in Alberta use areas close to roads and seismic lines less frequently than expected. Avoidance effects (areas of reduced use) were demonstrated up to 500 m away from developments. Russell (2014) summarizes the zone of influence (ZOI) and displacement distances for caribou caused by all-season roads. He identifies in his review a ZOI of 4 km during construction of all-season roads and 1.5 km during road operations for barren-ground caribou in the NWT and NT. Recently published research has found Porcupine Caribou avoided the

Dempster Highway shortly after its construction by 30 km and though after 20 years this distance had decreased to 18.5 km, the herd continues to avoid the highway (Johnson and Russell 2014).

Beyond the impacts of the HPAR on the Nahanni Caribou Herd, effects can also be cumulative. The HPAR project coupled with the integration of environmental change such as fire regime can increase the complexity of impacts. In areas of the Yukon and Alaska, various climate scenarios have predicted an increase in fire regimes that will reduce the amount of wintering habitats for the herd by up to 21% (Gustine et al. 2014). The combination of losses of habitat from industry, highways, and forest fires is complex and their population implications are even more challenging to understand.

The above identifies potential sources of impacts to the Nahanni Caribou Herd and the need for mitigation and best management practices to reduce these impacts. We also note that it is important to consider impacts to caribou that are not displaced by activities. Although the majority of caribou may decide not to use habitats adjacent to activities or areas of past disturbance, populations exhibit a wide range of behaviours and tolerances to disturbance. Individuals within a population have varying responses to disturbance; some individuals may avoid development and others may not, but both responses have an impact.

With respect to the benefit and effect on communities, DFN supports the comments made by NDDDB as they have been directly involved in the scoping sessions and have had direct discussions with Selwyn-Chihong and MVEIRB. We agree with NDDDB that the section of the ToR on Benefits and Effects on Communities should include more detailed valued components. These detailed value components should include: economic benefit and well-being, distribution of benefits, training and skill development, community wellness and community confidence and influence over the project.

DFN also supports NDDDB recommendations for more detailed information and inquiry into economic effects and wellbeing. Specifically, DFN supports NDDDB work towards identifying employment targets, analyzing what barriers there may be to achieve those targets, reducing barriers and tracking success toward meeting those targets.

2. Geographic scope

On page 18 of the ToR, Selwyn outlines the minimum geographic scope for Assessment of Valued Components. For the wildlife and wildlife habitat section, Selwyn states “Dependent upon species/population ranges and habitat requirements and also on potential effect being evaluated. “

DFN finds that the geographic scope for the Wildlife and Wildlife habitat section to be vague. DFN recommends that Selwyn provide greater detail on the geographic scope for wildlife species, particularly for the Nahanni Caribou Herd, as it is a key line of inquiry within the DAR.

3. Engagement

On page 11, Selwyn lists that they have a life-of-mine cooperation agreement with DFN. DFN has referenced our files and has been unable to locate a life-of-mine cooperation agreement. We did, however, find meeting notes that there was an Executive Committee meeting where DFN and Selwyn discussed life-of-mine agreements on June 9, 2010. There has also been a change of staff during the time period that the meeting took place and the present. DFN requests that Selwyn share the life-of-mine cooperation agreement with DFN.

4. Valued Components

On page 15 and 16, Selwyn lists the valued components to be included in the DAR. For wildlife and wildlife habitat, Selwyn lists Northern mountain woodland caribou (Nahanni caribou herd), moose, grizzly bear, wolverine, breeding birds, cliff nesting raptors and waterfowl.

DFN recommends that Selwyn consider including Dall Sheep and mountain goats if they are present in the vicinity of the HPAR.

Selwyn also lists Traditional Land Use and harvesting as valued components under the DAR with subjects to consider as past and current traditional use. DFN recommends that Selwyn provide more explicit detail on what traditional land use and harvesting activities they are currently considering under this section. We understand that the list is preliminary and may be subject to change, however, providing a preliminary list would provide a starting point for DFN and other reviewers to consider.

5. Assessment of Environmental Impacts and Cumulative Effects

Selwyn will identify and assess the effects of the development on the biophysical and human environment.

5.1 DFN notes that Selwyn is considering artificial light as an environmental impact on wildlife.

DFN recommends that Selwyn consider the following when including artificial light as an environmental impact on wildlife:

Artificial lights used at night alter the natural patterns of daytime and night and although this effect is not well understood, however, several studies indicate that light pollution has an adverse effect on wildlife (Longcore and Rich 2004; Miller 2006; Jones and Francis 2003). Studies indicate that attraction to and disorientation from artificial lights at night can result in an increase in structure related mortality, particularly for bird species (Longcore and Rich 2004; Jones and Francis 2003). In contrast, artificial light may also be avoided by wildlife causing displacement. Finally, night-time artificial light can also alter predator-prey dynamics by increasing predation levels (Jones and Francis 2003).]

5.2 In Section 7.6 Fish and Aquatic Habitat, DFN recommends Selwyn consider the effects of hanging culverts on aquatic ecosystems (if culverts are part of their design plan).

Healthy aquatic habitats and ecosystem functions require habitat connectivity. Hanging culverts act as a barrier to habitat connectivity by altering the flow of water and blocking the movement of fish and other aquatic organisms. Hanging culverts can prevent fish from reaching key areas of their habitat (such as spawning or feeding grounds), which results in lower fish populations, less species diversity and lower genetic diversity to keep populations healthy. The effects of hanging culverts can extend beyond fish species. Many other species such as birds, water shrews and minks feed on and rely upon abundant fish and/or aquatic insects populations.

In a study published in 2008 (Park et al 2008), 50% of the culverts surveyed (in four watersheds within Alberta) were hanging and the occurrence of a hanging culvert was positively and significantly related to culvert age and reach slope.

5.3 In Section 7.7 Wildlife and Wildlife Habitat, Selwyn outlines that they will evaluate the effect of the project on wildlife and wildlife habitat. DFN recommends that Selwyn considers the following within this section:

- Effects on predator-prey relationships

In this section, Selwyn indicates that they will consider “effects on predator-prey relationships including for birds and bird eggs”. DFN recommends Selwyn consider the effect of both direct predation on prey and the effect of stress on prey (if the predator population increases or is redistributed). The cost of defensive strategies (against predators) on caribou can include reduced energy income, energetic investment in defensive structures, lower mating success and increased vulnerability to other predators. A study conducted by Preisser et al (2005) found that the impact of intimidation on prey demographics was at least as strong as direct consumption.

When considering the effect of predator-prey relationships with reference to the Nahanni Caribou Herd, DFN also recommends that Selwyn consider increased efficiency for travel from reduced snow along the HPAR (for both the Nahanni Caribou Herd and predators).

- Increased human-wildlife conflicts

In Section, 7.7 Selwyn also considers increased human-wildlife conflicts. DFN recommends Selwyn consider wildlife attractants within this section particularly during the construction phase.

6. Project Description for Operations Phase

On page 30, Selwyn indicates that they will consider avalanche and terrain hazard management control during the road maintenance phase. DFN recommends Selwyn make the link between avalanche control and potential impacts to wildlife within the DAR, specifically outlining protocol to detect wildlife presence when considering avalanche control.

7. Alternatives within the project

DFN remains concerned regarding the traffic volumes proposed along the HPAR. DFN recommends that Selwyn provide a consideration of seasonal decreases in transportation volume or actions that may trigger decreases in transportation.

8. Management Plans

DFN recommends that Selwyn provide a preliminary list of management plans associated with the DAR. We acknowledge that Selwyn has provided mention of management plans associated with the DAR throughout the document; however, it would be helpful for reviewers to have an initial list of management plans in one location in the document.

9. Commitment Table

DFN recommends Selwyn provide a summary of commitments made in the HPAR DAR. In this case, commitments are intended to address project-specific issues raised by the reviewers and others.

10. ToR Concordance Table

DFN recommends that Selwyn include ToR concordance table to append to the HPAR DAR.

Thank you for the opportunity to submit draft comments on Selwyn's HPAR Terms of Reference. If you have any questions regarding DFN's closing statement, please contact Dahti Tsetso at 867-695-2355 or dahti_tsetso@dehcho.org.

Mahsi cho,



Carrie Breneman
Environmental Consultant for Dehcho First Nations

on behalf of

Dahti Tsetso
Resource Management Coordinator
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Dahti_Tsetso@dehcho.org

References:

- Dyer, S. J., J. P. O'Neill, S. M. Wasel, and S. Boutin. 2001. Avoidance of industrial development by woodland caribou. *Journal of Wildlife Management* 65:531–542.
- Gustine, D.D., T.J. Brinkman, M.A. Lindgren, J.I. Schmidt, T.S. Rupp, L.G. Adams. 2014. Climate-driven effects of fire on winter habitat for caribou in the Alaskan-Yukon Arctic. *PloS one*, 9(7).
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- Park, D., Sullivan, M., Bayne, E., and G. Scrimgeour. 2008. Landscape-level stream fragmentation caused by hanging culverts along roads in Alberta's boreal forest. *Canadian Journal of Forest Research*. 38(3): 566-575.
- Preisser, E.L., Bolnick, D.I., and M.F. Benard, M.F. 2005. Scared to Death? The effects of intimidation and consumption in predator-prey interactions. *Ecology* 86:501–509.
- Russell, D. 2014. Kiggavik project effects: Energy-protein and population modelling of the Qamanirjuaq Caribou Herd. Prepared for EDI Environmental Dynamics Inc., Whitehorse, YT.

Nahæâ Dehé Dene Band
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Ms. Kate Mansfield and Mr. Simon Toogood
Mackenzie Valley Environmental Impact Review Board
200 Scotia Centre
Box 938, 5102-50th Ave
Yellowknife, NT X1A 2N7

Uploaded to on-line registry

Re: Written submission regarding Selwyn-Chihong's Howards Pass Access Road draft Terms of Reference

Dear Ms. Mansfield and Mr. Toogood,

Please find attached Nahæâ Dehé Dene Band (NDDB) comments regarding the proposed Howard's Pass Access Road. While detailed comments are in the attached excel document, I would like to emphasize two areas of concern to our Membership.

Firstly, the volume of traffic proposed for the HPAR will make effects to the Nahanni Caribou Herd very difficult to mitigate in their entirety. Caribou are culturally significant to us throughout the Dehcho region and their protection must be an ultimate priority for the Board, the proponent and all public agencies. We look forward to working further on this topic with the Parties but would like to stress that all aspects of possible negative effects on the Herd will need to be explored in detail. These include, but are not limited to:

- effects on predation
- effects on the Herd's interaction with other herds and resulting genetic diversity and resilience
- effects on migration patterns and location of calving, post-calving, rutting and over wintering
- effects on direct and indirect mortality

In particular, cumulative effects are of grave concern and the project will need to be able to adaptively manage to ensure the Herd's survival in light of how climate change and other cumulative effects may interact in the future to jeopardize the Herd's health. It is likely that in a scenario of cumulative effects, including both future possible developments and climate change effects, substantial uncertainty may exist as to the future risk to the Herds. A strong

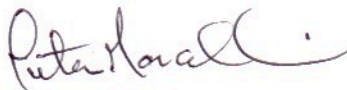
framework for adaptive management in which the Herd's enduring health is prioritized must therefore be a critical outcome to the Environmental Assessment.

Secondly, the health, well-being and economic prosperity of Nahanni Butte is of utmost priority to NDDB and must be explored in detail. As described in the attached, though jobs, training and business opportunities are key topics to explore, community well-being will need to be explored broadly. Negative impacts on small communities caused by the boom and bust nature of resource development as well as the stress of out-of-community work rotations on individuals, families and communities are all well documented in the literature. NDDB would therefore like to strongly encourage both the Proponent and the Board to apply this knowledge to the current environmental assessment. Best practices emerging from experiences elsewhere are relevant to the assessment and can be applied on their own merit. That said, it is also our opinion that in order to ensure that useful, measurable and trackable baseline data related to community well-being are used, some community-based research and planning research will also be required. It should not be assumed that this level of detail is readily available and aggregate or averaged regional data will not provide an accurate working representation of the Nahanni Butte context.

Nahanni Butte leadership continues to have a constructive working relationship with Selwyn-Chihong. However, our experiences of late have illustrated to us how quickly relationships can change with volatile commodity prices and economic realities. We are currently working with two companies to address how outstanding obligations to NDDB can be met. The time, energy, resources and money needed to properly engage in regulatory processes as well as direct Party negotiations are significant and it is critical that risk to NDDB be reduced. We would like to ensure not only that we are well-resourced to engage in the regulatory process to ensure that our concerns are met, but also that all costs incurred are reimbursable. If not, public institutions are asking us as a First Nation to carry a disproportionate share of the risk associated with these mining projects. Such considerations will need to be addressed within the Environmental Assessment.

In addition, due to these risks, and due to the magnitude of possible effects on the environment, particularly on the Nahanni Caribou Herd, we are requesting that the Review Board make intervenor funding available for this process.

Thank you for consideration of our perspectives and please do not hesitate to contact me if you have questions regarding our submission.

A handwritten signature in dark ink, appearing to read 'Peter Marcellais', with a stylized flourish at the end.

Chief Peter Marcellais



DEC 11 2015

VIA ONLINE REVIEW SYSTEM

Ms. Kate Mansfield
Mackenzie Valley Environmental Impact Review Board
PO Box 938
YELLOWKNIFE NT X1A 2P1

Dear Ms. Mansfield:

Selwyn Chihong Mining Limited's Howard's Pass Access Road upgrade environmental assessment – GNWT comments on updated Developer's Proposed Terms of Reference (EA-1516-01)

The Government of the Northwest Territories (GNWT) has reviewed the *updated Developer's Proposed Terms of Reference* and attended all technical and community scoping sessions for the Mackenzie Valley Environmental Impact Review Board's (MVEIRB) environmental assessment of the proposed Howard's Pass Access Road upgrade. The GNWT has submitted its comments on the Online Review System (ORS) for MVEIRB's consideration.

The GNWT anticipates that these comments will assist in informing MVEIRB's *draft Terms of Reference*, as well as contribute to an enhanced understanding of the overall nature and significance of the proposed project's potential impacts on the environment. The GNWT looks forward to reviewing MVEIRB's *draft Terms of Reference* and further opportunities to participate in this EA.

If the Mackenzie Valley Environmental Impact Review Board or any of the participants in the HPAR Upgrade EA have questions regarding the GNWT's comments, please contact Lorraine Seale, Manager, Project Assessment Branch, by email at lorraine_seale@gov.nt.ca, by phone at 867-767-9183 (Ext. 24067), or Paul Mercredi, Project Assessment Analyst, by email at paul_mercredi@gov.nt.ca and by phone at 867-767-9183 (Ext. 24068).

Sincerely,

Terry Hall
Director, Land Use and Sustainability

Attachment





December 11, 2015

Kate Mansfield
Environmental Assessment Officer
Mackenzie Valley Environmental Impact Review Board
200 Scotia Centre – 5102 – 50th Ave
YELLOWKNIFE, NT X1A 2N7

Dear Ms. Mansfield,

Subject: Government of Canada Comments on the Developer's Proposed Terms of Reference for Selwyn Chihong Mining Ltd. Howard's Pass Access Road Upgrade Project (EA1516-01)

The Northern Projects Management Office, on behalf of the Government of Canada, is submitting the attached comments on the Developer's Proposed Terms of Reference ("DPToR") for the environmental assessment of the Howard's Pass Access Road Upgrade Project.

The submission includes comments from Environment and Climate Change Canada, Fisheries and Oceans Canada, Parks Canada and Transport Canada. A contact list from federal departments participating in this environmental assessment is also attached.

The Government of Canada looks forward to continued participation in the above noted environmental assessment.

Sincerely,

Sarah Robertson
A/ Project Manager
Northern Projects Management Office
Canadian Northern Economic Development Agency

Attachments (2): 1. Federal Contact List (Annex A)
2. Government of Canada Comments on DPToR

**Contact list from Federal Departments for Selwyn Chihong Mining Limited's
Howards Pass Access Road Upgrade Project**

Environment Canada | Environnement Canada

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Environmental Assessment Coordinator | Coordonnateur d'évaluation environnemental
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Fisheries and Oceans Canada | Pêches et Océans Canada

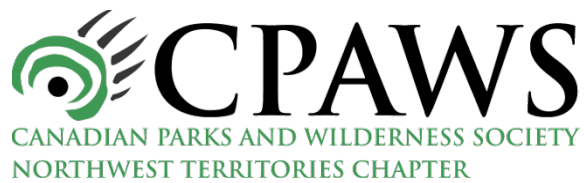
Georgina Williston
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Dec 11, 2015

Attn: Kate Mansfield – Environmental Assessment Officer

Re: Canadian Parks and Wilderness Society's Comments Regarding – EA 1516-01
Selwyn Chihong Mining Ltd. Developer's Proposed Terms of Reference for Howard's Pass Access Road
Upgrade Project

Dear Ms. Mansfield,

The follow comments and recommendations regarding the Developer's Proposed Terms of Reference are supplement to our participation at the scoping session hosted in Yellowknife Oct 15, 2015.

CPAWS has long supported the protection of the South Nahanni Watershed and we were active in the establishment processes for both the Nahanni and Nááts'ihch'oh National Park Reserves (NPR's). It is our ongoing concern that land management decisions made within the geographical area protect ecological integrity within the two NPR's and across the entire watershed. The Howard's Pass Access road would significantly increase passage into the watershed as it extends over headwater tributaries of the Nahanni River and through important seasonal habitats and movement corridors for broad ranging species including mountain caribou and grizzly bear. A very thorough and robust effort to consider the regional cumulative effects of existing and future disturbances linked to this potential all season road and mine are necessary to ensure that a healthy aquatic environment and healthy populations of grizzly bear, mountain caribou and other species persist across the South Nahanni Watershed.

We thank-you for considering our input,

Kris Brekke
Executive Director
Canadian Parks and Wilderness Society – NWT Chapter

Topic :	Comment :	Recommendation:
Page 17 Key Lines of Inquiry	The road will pass over many headwater tributaries of the South Nahanni River. Dust and large particles loosened from heavy traffic as well as debris released during quarrying and road maintenance could impact tributaries as well as groundwater and seasonal run-off.	Include Aquatic Ecosystems as a Key Line of Inquiry
Page 17 Key Lines of Inquiry – Nahanni Caribou Herd	It is possible that mountain caribou from other herds could use habitat in the vicinity of the proposed road	Maintain priority consideration of the Nahanni caribou herd and include mountain caribou generally in the key line of inquiry
Page 17 Key Lines of Inquiry - National Parks Reserves	Ecological Integrity (EI) should be explicitly mentioned in this key line of inquiry as EI is a required component of Parks Canada's management responsibilities as well EI can be a benchmark for measuring the successful mitigation of impacts to the aquatic environment, on mountain caribou, and on other species in the vicinity of the Howards Pass Road	State this Key line of inquiry as National Park Reserves /Ecological Integrity.
Sec. 4.2.2 Pg. 25 Harvesting and Hunting	It is very important that this section not be only dependent on historical and existing harvesting activities. It must also be forward looking. The road upgrade could significantly increase access for hunters and it is likely that available harvest data is very limited now because GNWT hunting regulations do not yet require mandatory harvest reporting. An estimate of future harvest pressure that considers real scenarios where road access has increased harvest of mountain caribou such as at the Canol Trail may provide a more certain view of future potential impacts.	<p>Update statement describing section 4.2.2 :</p> <p>"SCML will provide a description of historical, existing and a consideration of future harvesting activities"...</p> <p>And add bullet :</p> <ul style="list-style-type: none"> • Impact of potential future harvest activities with a consideration of scenarios where a road has increased hunter access to mountain caribou

<p>Section 3.1 Table 1 Summary of the Scope of Development – Closure</p>	<p>It is reasonable that mountain caribou could at times gather in significant numbers on or in the area of the road causing risk to the herd and to vehicle operators. These risks could be anticipated based on the seasonal movement of the Nahanni Caribou herd and risks could be mitigated through seasonal planned temporary road closures.</p>	<p>Under the heading “<u>Temporary suspension of road use:</u>” include a bullet to address the presence of wildlife.</p> <ul style="list-style-type: none"> • Closures to accommodate the presence and seasonal movements of mountain caribou
<p>Section 7.14 Roadways, Lake and River Use</p>	<p>It should be made clear throughout the EA who has jurisdiction over sections of the road during construction, operations and closure. It is important to consider that the management of road access could have significant positive or negative influences on Cumulative Effects and will likely influence the successful follow through of commitments and mitigations agreed upon within the EA.</p>	<p>Expand the following statement to such that it includes an identification of jurisdictional and management authority for the road during construction, operations and closure.</p> <p>“The evaluation of effects related to roadways, lake and river use will be supplemented by management plans related to road access and road operations. Management plans will clearly describe the jurisdiction and role of authorities responsible for road access and road operations during the construction, operation and closure phases of the development.”</p>



Mackenzie Valley Environmental Impact Review Board

4910 50th Avenue, 2nd Floor
PO Box 2130
Yellowknife NT X1A 2P6

December 11th, 2015

Via email:

Re: Comments on Draft Terms of Reference for Howards Pass Access Road Upgrade Project (File EA1516-01)

Dear Ms. Mansfield:

The purpose of this letter is to provide information to the Mackenzie Valley Environmental Impact Review Board (the Review Board) for consideration when scoping the environmental assessment (EA) of the Howards Pass Road Upgrade Project (File EA1516-01).

The Howards Pass Road goes through both Nahanni (NNPR) and Nááts'ihch'oh (NaNPR) National Park Reserves. Pursuant to section 41.1 of the *Canada National Parks Act* (CNPA), Parks Canada is a regulatory agency for the section of road that goes through the National Park Reserves. On July 10, 2015 the Parks Canada Agency referred Selwyn Chihong Ltd's (SCML) Land Use Permit and Water Licence application to the Review Board for EA.

Parks Canada has been an active observer in the Review Board's community scoping sessions in the Sahtu, Dehcho and Kaska communities. Parks Canada has also provided verbal comments to the Review Board during the technical session held in Yellowknife on October 23, 2015. Attached you will find our formalized



comments regarding SCML's Proposed Terms of Reference which reflect what was said at the technical session.

During our review and analysis of the Developer's Proposed Terms of Reference we have utilized expert advice to ensure the scope of assessment reflects our mandated obligations for consideration of natural and cultural resources as well as visitor experience. It is Parks Canada's expectation that the Review Board scope the project activities both inside and outside of the National Park Reserves into EA.

Parks Canada will use this EA process to meet the *Mackenzie Valley Resource Management Act* Part 5 EA requirements for the requested permits. We will continue to participate in this EA as a responsible minister, providing expert advice on the potential impacts of the proposal on both National Park Reserves.

The Developers Proposed Terms of Reference is a comprehensive document and we look forward to the opportunity to review and comment on the Review Board's Draft Terms of Reference when it is available. Should you have any comments or questions please contact our Environmental Assessment Specialist, Allison Stoddart at (819) 420-9188 or Allison.stoddart@pc.gc.ca.



David Britton

Superintendent, Nahanni National Park Reserve



Laani Uunila

Superintendent, Nááts'ihch'oh National Park Reserve



December 10, 2015

Mackenzie Valley Environmental Impact Review Board
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Attn: Kate Mansfield, Environmental Assessment Officer

Re: EA1516-01, Selwyn Chihong, Howard's Pass Access Road Upgrade Project: The Developer's Proposed Terms of Reference

Dear Ms. Mansfield:

Thank you for the opportunity to comment on *The Developer's Proposed Terms of Reference* for EA1516-01, Selwyn Chihong, Howard's Pass Access Road Upgrade Project. We are submitting comments in our respective capacities as Wildlife Conservation Society (WCS) Canada scientists¹ specializing in wildlife ecology, conservation biology, and landscape ecology in Canada.

We are particularly concerned about the effects of proposed mining developments and the associated heavy, constant industrial traffic along the Howard's Pass road on seasonal movements, use of critical habitats, and survivorship of the Nahanni Caribou Herd and grizzly bears. The many and substantive detrimental effects of new mines and roads – even a single development – into remote country on vulnerable wildlife and ecosystem integrity have been well documented in the scientific literature. This is especially critical for maintaining the ecological integrity of the renowned National Park Reserves and World Heritage Site.

Based upon the scientific information, we believe that the Terms of Reference for the Howard's Pass Access Road (HPAR) can be strengthened by incorporating more explicit examination of environmental effects at appropriate geographic and temporal scales for the Nahanni Caribou Herd and grizzly bears as prioritized lines of inquiry. Although we are encouraged by the explicit incorporation of cumulative effects in the TOR, we have some suggestions for strengthening this further. We have provided several comments, rationale, and recommendations in this letter that we are submitting through the on-line submission.

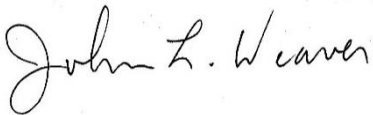
One of us - Dr. John Weaver, Senior Scientist for WCS Canada - conducted 5 years of field research on grizzly bear, Dall's sheep, and woodland caribou throughout the South Nahanni River watershed,

including the headwaters area known as *Nááts'ihch'oh*. John obtained extensive, on-the-ground experience in this very remote area and published the WCS Canada *Conservation Report Big Animals and Small Parks: Implications of Wildlife Distribution and Movements for Expansion of Nahanni National Park Reserve* (2006). This scientific report provided much pertinent data that informed the momentous decision to expand Nahanni National Park Reserve and to create *Nááts'ihch'oh* National Park Reserve. We have attached a copy of that report for your background and reference (available for download from <http://wcscanada.org/Wild-Places/Nahanni-National-Park-Reserve.aspx>).

Moreover, Dr. Justina Ray, Senior Scientist and Executive Director of WCS Canada, is co-chair of the Terrestrial Mammal Subcommittee of COSEWIC and led the recent assessments of grizzly bear (2013) and mountain caribou (2014) in Canada. Justina served as science advisor to Environment Canada on identification of critical habitat for boreal caribou across Canada and to the Ontario government on caribou and wolverine recovery. She is co-author (with Monte Hummel) of the book *Caribou and the North: A Shared Future* (2008) and other relevant publications.

Our specific comments on the draft TOR are in the pages that follow. Thank you for carefully considering these comments and recommendations.

Sincerely,



John Weaver, Ph.D.
Senior Conservation Scientist



Justina Ray, Ph.D.
President and Senior Scientist

1 WCS Canada (www.wcscanada.org) was established in May 2004 as a Canadian non-government organization with a mission to conserve wildlife and wildlands by improving our understanding of and seeking solutions to critical problems that threaten key species and large wild ecosystems throughout Canada. We implement and support comprehensive field studies that gather information on wildlife needs and then seek to resolve key conservation problems by working with First Nation communities, Government and regulatory agencies, conservation groups, and industry.

Specific WCS Canada Comments and Recommendations:

TOPIC	COMMENT	RECOMMENDATION
SCOPE/3.1/Table 1, p.14	Grizzly bears have low reproductive rates and cannot sustain excessive mortality rates caused by humans. Human-based foods and garbage can attract grizzly bears, increase conflicts with humans, and lead to direct shooting or management removal of bears. Much progress has been accomplished in recent years in standards and techniques for appropriate handling of human foods and garbage to minimize the risk of conflicts. Grizzly bears occur commonly in the vicinity of the Howard's Pass road, so the potential for conflict is real.	Best management practices for securing food and garbage attractants from bears should be itemized under 'Temporary construction camps' in Table 1.
SCOPE-components/ 3.2/ Table 2 and pp. 16-17	Woodland caribou and grizzly bears are species that are highly vulnerable to human disturbance, habitat fragmentation, and excessive risk of mortality.	<i>Both</i> the Nahanni herd of woodland caribou and grizzly bear should be considered priority species and designated as 'key lines of inquiry' for this environmental assessment.
SCOPE-components/ 3.2/ Table 2 and pp. 16-17	Nahanni National Park Reserve is a World Heritage Site, and Nááts'ihch'oh National Park Reserve comprises much of the headwaters region of the South Nahanni River watershed. Ecological integrity is the policy mandate of Parks Canada. The Nahanni Caribou Herd and grizzly bears occur within the boundaries of these Park Reserves but also extend beyond them. Thus, impacts upon these trans-boundary components pertain to the ecological integrity of both of the Park Reserves.	Ecological integrity of Nahanni and Nááts'ihch'oh National Park Reserves should be a key line of inquiry, separate and distinct from "visitor access to park areas and visitor experience, park heritage and cultural resources".
Cumulative effects/s. 6 (p. 33), 7.1 (p. 35), 10 (p. 42)	The building of this road not only will bring increased traffic levels into this remote region, but also has the potential to spawn additional development interest and/or access, and increased hunting levels, creating what is known as "growth-inducing	We support the explicit inclusion of cumulative effects and suggest that this should be particularly targeted to the vulnerable wildlife species – woodland caribou and grizzly bear – and analyzed in the

	<p>effects". Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects.</p>	<p>context of the ecological integrity of the Park Reserves. In this vein, some key questions for this assessment from a cumulative effects perspective include: 1) whether the development of the road will or could lead to new mining projects and an expanding footprint and/or greatly increase access to caribou range and the potential for unsustainable harvest? 2) Should the road effects be considered cumulatively with those associated with the mine, even if the activities are only exploratory at this stage in the development process?</p>
<p>SCOPE - geographic/ 3.3/ Table 3, p.18</p>	<p>Most of the Nahanni Caribou Herd (NCH) spends the winter near Virginia Falls in Nahanni National Park Reserve and the summer-fall at the head of the Little Nahanni River and adjacent highlands along the Yukon border (Weaver 2006). The annual range of this herd has been estimated at 17,500 km².</p> <p>Grizzly bears occur throughout the Greater Nahanni Ecosystem, with higher densities in the more mountainous landscapes (Weaver 2006). Very high survivorship (>0.92) of adult female grizzly bears is a key factor in population persistence. Adult females often seek remote areas to raise their cubs. Minimizing disturbance of family groups as well as potential for grizzly-human conflicts are important conservation measures.</p>	<p>The geographic scope of the Environmental Assessment for woodland caribou should include the annual home range of the Nahanni Caribou Herd (see Weaver 2006). For critical seasonal events, the geographic scale should include areas documented for calving and breeding by the NCH, especially within 3.2 km of the HPAR.</p> <p>The geographic scope of the Environmental Assessment for grizzly bears should be scaled at a minimum to the annual home range of adult females. Some data from the Mackenzie Mountains suggests their home ranges encompass 400-550 km².</p>

		<p>For both species, we note that the most recent surveys and radio-collaring data are over 5 years old. More recent data about distribution and movements will be necessary in this EA.</p> <p>To deliver the promise of cumulative effects analysis in the TOR, the study area must be large enough to encompass the total number of road crossings (and associated risk to aquatic environments) or sediment input into the watershed. We note mention of the potential for a regional approach (Table 4), which would be good assessment practice if there was a larger road network or the potential for new roads in the reasonably foreseeable future.</p>
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<p>SCOPE - temporal/ 3.4/ Table 5, p.21</p>	<p>In spring (mid-April to mid-May), this Nahanni Caribou Herd migrates north-northwest up the South Nahanni River into the area at the head of the Little Nahanni River and adjacent highlands along the Yukon border. Here, adult female give birth to calves usually in mid-May to early June; this is a very critical event and time for caribou. Breeding (rut) usually occurs in the Little Nahanni River headwater basin in early October. The Howard's Pass Access Road (HPAR) passes through areas that are critical for these caribou during specific time periods.</p> <p>Grizzly bears are active from den emergence (April-May) until den entrance (October-November). Bears may also be susceptible to disturbance at dens (November-March). Different conservation measures are warranted during these different time periods.</p>	<p>The temporal scope of the Environmental Assessment for Nahanni Caribou Herd should include the spring migration, calving and post-calving period, the breeding rut, and fall migration. This would encompass mid-April to mid-November (see Weaver 2006). Due to the multi-decade existence of the HPAR and mine, the temporal scope should also address the cumulative effects over the entire time span of the proposed project on caribou.</p> <p>The temporal scope of the Environmental Assessment for grizzly bears should include both the active period (April/May → November) and the denning period (November → March/May). Due to the multi-decade existence of the HPAR and mine, the temporal scope should also address the cumulative effects over the entire time span of the proposed project on caribou.</p>
<p>ENVIRONMENT – wildlife/4.1.6, p. 24</p>	<p>New and/or upgraded roads and associated vehicle traffic introduce a 'new environment' that may displace animals, impede their movements, fragment habitats and populations, and impinge upon genetic exchange.</p>	<p>Description of the environment should include detailed discussion of location of the Howard's Pass Access Road relative to the movements and activities of the Nahanni Caribou Herd.</p> <p>We note the commitment to a fairly comprehensive list of wildlife, wildlife habitat, wildlife features that will be included in the inventory work.</p>

		<p>This raises some concerns for us about whether the work will be spread too thinly across these elements to constitute robust scientific practice. We urge careful decision making as it relates to information gathering and analysis around the key lines of inquiry and cumulative effects, especially vulnerable and wide-ranging wildlife and ecological integrity of the park reserves.</p>
<p>DEVELOPMENT – Construction Phase/ 5.2 /Table 6, p. 29</p>	<p>Human occupancy and associated foods and garbage introduce a ‘new environment’ for vulnerable species like grizzly bears. Grizzly bears have low reproductive rates and cannot sustain excessive mortality rates caused by humans. Human-based foods and garbage can attract grizzly bears, increase conflicts with humans, and lead to direct shooting or management removal of bears.</p> <p>Grizzly bears occur commonly along the Howard’s Pass Access Road, so the potential for conflict is real.</p>	<p>Description of the environment should include detailed discussion about management of human foods and garbage at all camps to minimize attractants for grizzly bears. This plan should be reviewed by independent bear scientists.</p>
<p>DEVELOPMENT – Operations Phase/ 5.2 /Table 7, p. 30</p>	<p>Projected traffic volume along the HPAR during the operations phase is estimated to be 100 vehicles per day each way, or 200 total vehicle trips. Although the footprint of the road is relatively small, there will be a large truck passing through it every 7.2 minutes (contingent on a 24-h haul schedule).</p>	<p>The EA should describe measures to ensure safe passage or crossing of woodland caribou during critical periods (e.g., spring migration, calving, and rut). These measures should include the seasonal closure of the HPAR during critical time periods for caribou. Any mitigation plans should be reviewed by independent caribou scientists.</p>

DEVELOPMENT – Closure Phase/ 5.2/Table 8, p. 31	Management of the HPAR upon completion of the mining project will have a major, long-term effect on the Nahanni Caribou Herd, grizzly bears, and other wildlife.	The plans for temporary or permanent suspension of the HPAR should explicitly address the different effects on caribou, grizzly bear, and other wildlife populations and the long-term ecological integrity of the National Park Reserves.
Harvest and Traditional land use harvesting/4.22 (p. 25), 7.9 (p. 39)	The TOR is mostly concerned with impacts of the project on traditional harvest. But impacts may arise from increased harvest by resident hunters as well, due to greater roaded access to the areas where caribou occur in fall.	Impacts from increased harvest and monitoring of the potential for overharvest as a result of access provided by the upgraded road should be explicitly considered for all phases of the project.
ASSESSMENT of ALTERNATIVES 9.1/p.42	A full and fair examination of the alternatives in an Environmental Assessment should consider a 'No-Action' alternative.	The EA should place serious consideration into a 'No-Action' alternative and compare the effects to other alternatives.

GUIDELINES FOR DEVELOPERS

FOR THE PROTECTION OF ARCHAEOLOGICAL SITES IN THE NORTHWEST TERRITORIES

INTRODUCTION

The following guidelines have been formulated to ensure that the impacts of proposed developments on archaeological sites are assessed and mitigated before ground surface altering activities occur. Effective collaboration between land management authorities, the developers, the Cultural Places Program of the Prince of Wales Northern Heritage Centre, and the contract archaeologist(s) will ensure proper preservation of archaeological sites in the Northwest Territories. The roles of each are briefly described.

The **Prince of Wales Northern Heritage Centre** (PWNHC) is the Territorial Government agency that oversees the protection and management of archaeological sites in the Northwest Territories, in partnership with land claim authorities and regulatory agencies. Briefly, its role in mitigating impacts of developments on archaeological sites is to identify the need for an impact assessment and make recommendations to the appropriate regulatory agency, assist in setting the terms of reference for the study depending upon the scope of the development, suggest the names of qualified individuals prepared to undertake the study to the developer, issue a NWT Class 2 Archaeologist Permit authorizing fieldwork, assess the completeness of the study and its recommendations, and, in conjunction with the land management authority, ensure that the developer complies with the recommendations.

A **developer** is the initiator of a land use activity. It is the obligation of the developer to ensure that a qualified archaeologist is hired to perform the required study and that provisions of the contract with the archaeologist allow permit requirements to be met (i.e. fieldwork, collections management, artifact conservation, and report preparation). On the recommendation of the contract archaeologist in the field, or the PWNHC, the developer shall implement avoidance or mitigative measures to protect archaeological sites or to salvage the information they contain through excavation, analysis, and report writing. The developer assumes all costs associated with the study in its entirety. Archaeological fieldwork can only be effectively undertaken during the summer months and project planning must take this into account. Furthermore, before an NWT Archaeologist Permit can be issued, permit review procedures require consultation with community and/or land claim authorities. This can take up to 60 days and project planning must account for this as well.

Through active participation and supervision of the study, the **contract archaeologist** is accountable for the quality of work undertaken and the quality of the report produced. Facilities to conduct fieldwork, analysis, and report preparation should be available to this individual through institutional, agency, or company affiliations. The contract archaeologist is responsible for the curation of objects recovered during fieldwork while under study, for documents generated in the course of the study, as well as remittance of artifacts and documents to the depository specified on the archaeological permit. This individual is also bound by the legal requirements of the **Archaeological Sites Regulations** under which NWT archaeological permits are issued (see below).

TYPES OF DEVELOPMENT

In general, those developments that cause concern for the safety of archaeological sites will include one or more of the following kinds of surface disturbances. These categories, in combination, are comprehensive of the major kinds of developments commonly proposed in the Territories. For any development proposal, several kinds of these disturbances may be involved. Examples include, but are not limited to, the following:

1. **Linear disturbances:** including the construction of highways, roads, winter roads, transmission lines, and pipelines;
2. **Extractive disturbances:** including mining, gravel removal, quarrying, and land filling;
3. **Impoundment disturbances:** including dams, reservoirs, and tailings ponds;
4. **Intensive land use disturbances:** including industrial, residential, commercial, recreational, and agricultural siting, woodcutting, land reclamation work, and use of archaeological sites as tourist developments.
5. **Mineral, oil and gas exploration:** establishment of camps, temporary airstrips, access routes, well sites, drilling activities, trenching, blasting, seismic activities, or quarries.

TYPES OF STUDIES UNDERTAKEN TO PRESERVE ARCHAEOLOGICAL SITES

Overview: An overview study of archaeological sites should be conducted at the same time as the development project is being designed or its feasibility addressed. They usually lack specificity with regard to the exact location(s) and form(s) of impact and involve limited, if any, field surveys. Their main aim is to accumulate, evaluate, and synthesize the existing knowledge of the archaeological record of the known area of impact. The overview study provides managers with baseline data from which recommendations for future research and forecasts of potential impacts can be made. Copies of the overview report should be submitted to the Cultural Places Program at the Prince of Wales Northern Heritage Centre. If fieldwork is undertaken then a permit is required.

Reconnaissance: This is done to provide an informed appraisal of a region sufficient to provide the developer, the consultant, and government managers with recommendations for further development planning. This study may be implemented as a preliminary step to inventory and assessment investigations except in cases where a reconnaissance may indicate a very low or negligible archaeological potential.

The main goal of a reconnaissance study is to provide baseline data for the verification of the presence of potential archaeological sites, the determination of impacts to these resources, the generation of terms of reference for further studies and, if required, the advancement of preliminary mitigative and compensatory plans. The results of reconnaissance studies are primarily useful for the selection of alternatives and secondarily as a means of identifying impacts that must be mitigated after the final siting and design of the development project. An NWT Class 2 Archaeologist Permit is required.

Archaeological Impact Assessment: Generally, an Archaeological Impact Assessment (AIA) consists of two phases of archaeological research, focused on the project footprint or study area:

Inventory: The inventory is generally conducted at that stage in a project's development at which the geographical area(s) likely to sustain direct, indirect, and perceived impacts can be well defined. This requires systematic and intensive fieldwork to ascertain the effects of all possible and alternate construction components on archaeological sites. All archaeological sites must be recorded on NWT Archaeological Site Forms and submitted electronically. Sufficient information must be amassed from field, library and archival components of the study to enable the developer to make planning decisions and recognize their likely effects on known or predicted resources, and make the developer aware of the expenditures which may be required for subsequent studies and mitigation. An NWT Class 2 Archaeologist Permit is required.

Assessment: At this stage, sufficient information concerning the numbers and locations of archaeological sites will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity, and content of an archaeological site that is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

Mitigation: This refers to the amelioration of adverse impacts to archaeological sites and involves the avoidance of impact through the redesign or relocation of a development or its components, the protection of the resource by constructing physical facilities, or the scientific investigation and recovery of information from the resource by excavation or other method. The type(s) of appropriate mitigative measures are dictated by their viability in the context of the development project. Mitigation strategies should be developed in consultation with the PWNHC. It is important to note that mitigation activities should be initiated as far in advance of the construction of the development as possible.

Surveillance and monitoring: These may be required as part of the mitigation program. A surveillance, or survey, may be conducted during the construction phase of a project to ensure that the developer has complied with the recommendations. Monitoring involves identification and inspection of residual and long-term impacts of a development (i.e. shoreline stability of a reservoir) or the use of impacts to disclose the presence of archaeological sites, for example, the uncovering of buried sites during the construction of a pipeline.

REPORTING PROCEDURES

By law, a holder of an NWT Class 2 Archaeologist Permit must submit a report on the work performed by March 31st following the calendar year in which the permit was issued. Copies of the report are submitted to the PWNHC, the local land claim authority, and other authorities as outlined in the permit conditions. The structure of the report is outlined in the NWT Archaeological Sites Regulations and in conditions appended to the permit.

Permit applications must be received by the PWNHC at least 60 days prior to planned fieldwork to allow adequate time for consultation with local authorities. Archaeological fieldwork in the NWT is undertaken between late May and early September, depending on the region and weather conditions.

The PWNHC sends copies of the application to appropriate organizations for comment. When a community or review agency raises concerns over the issuing of a particular permit, these are addressed before the permit is issued, or are reflected in the conditions attached to the permit. In some cases the permit may not be issued. The PWNHC relates concerns (if any) to the applicant. At the end of the review one of the following will happen:

- The permit is issued for the work originally outlined in the application;
- The permit is issued with conditions attached; or
- The permit is refused, and the reasons for refusal provided to the applicant.

A permit may be refused if the research has not been adequately justified by the applicant, if the applicant lacks appropriate credentials, has significant obligations outstanding on previous permits issued to him or her, proposes to disturb a site of spiritual significance, or has not complied with any conditions precedent to obtaining a permit set out in any applicable land claims agreement. All permits are appended with requirements that inform permit holders of their obligations.

Upon expiry of the permit, a permit holder must have complied with the following obligations:

- A technical report and copies must be submitted to the PWNHC, and other communities/organizations as directed on the permit,
- Provide a non-technical summary for use in public education programs, and
- Submit the catalogued artifacts, field notes, maps and photos to the PWNHC. If the permit holder needs the artifacts for further research, loan arrangements must be made with the Collections Section of the PWNHC.

THE NWT ARCHAEOLOGICAL SITES DATABASE

The Prince of Wales Northern Heritage Centre maintains an inventory of all known archaeological sites in the NWT, which currently totals just over 6500 sites. Developers wishing to determine if there are any known archaeological sites within their area of interest may apply to the PWNHC for a licence agreement to access a subset of the database. The licence agreement may be downloaded at <http://pwnhc.ca/programs/archa.htm>.

Please bear the following in mind when reviewing data from the NWT Archaeological Sites Database:

- Only a small fraction of the archaeological sites in the NWT have been located and recorded. If there are none recorded in your area of interest this likely means that the area remains unexplored for archaeological sites and that sensitive, unrecorded archaeological sites may exist.
- Local Aboriginal groups may have heritage, cultural, or sacred sites in the area which are not registered in the NWT Archaeological Sites database. As well, local knowledge of traditional land use patterns can provide valuable information about past use of your development area.
- If you are applying for access to the NWT Archaeological Sites Database as part of a land use permit, lease or other land use or water use application, please note that a request to access to the database does not constitute an archaeological review of your project.
- If you receive archaeological data under the terms of a licence agreement, we ask you to follow the terms of the agreement closely. All land and water regulatory agencies in the NWT have agreed that you are not required to submit maps detailing the location of archaeological sites with your land use application. This helps protect the sites from unnecessary attention.
- Information on sites has been gathered over many decades and most coordinates were obtained prior to precision GPS. Geographic coordinates for any given site might vary by up to 250 metres. Archaeological site locations are provided as point data, usually marked at the center of a site. Sites vary in extent and size however, and information regarding this is located in the site record. You should pay particular attention to this if you are planning development activities in the vicinity of an archaeological site. Though Mackenzie Valley and Territorial Land Use Regulations prohibit development activities within 30 metres of a known or suspected archaeological site, Land and Water Boards now generally stipulate a buffer between 100 – 150 metres depending on the region.

SUMMARY OF LEGISLATION PROTECTING ARCHAEOLOGICAL SITES IN THE NORTHWEST TERRITORIES

The **Archaeological Sites Regulations**, pursuant to the *Archaeological Sites Act* apply to all lands and waters other than those within the administration and control of Her Majesty in right of Canada:

4. No person shall search for archaeological sites or archaeological artifacts, or survey an archaeological site, without a Class 2 or Class 2 permit.
5. No person shall excavate, alter or otherwise disturb an archaeological site, or remove an archaeological artifact from an archaeological site without a Class 2 permit.

Under the *Mackenzie Valley Resource Management Act* "heritage resources" are defined as archaeological or historic sites, burial sites, artifacts and other objects of historical, cultural or religious significance, and historical or cultural records. Furthermore under Part 5 of the Act, an "impact on the environment" means any effect on land, water, air or any other component of the environment, as well as

on wildlife harvesting, and includes any effect on the social and cultural environment or on heritage resources.

The **Mackenzie Valley Land Use Regulations** (MVLUR) stem from the *Mackenzie Valley Resource Management Act*, and apply throughout the NWT, except in the Inuvialuit Settlement Region. Two sections of the MVLUR are relevant to archaeological sites:

6 (a). Unless expressly authorized by a permit or in writing by an inspector, no permittee shall conduct a land use operation within 30 m of a known monument or a known or suspected historical, archaeological site or burial ground; and

12. Where, in the course of a land-use operation, a suspected historical or archaeological site or burial ground is discovered,

(a) the permittee shall immediately suspend operations on the site or burial ground and notify the Board or an inspector; and

(b) the Board or inspector shall notify any affected First Nation and the department of the Government of the Northwest Territories responsible therefor of the location of the site or burial ground and consult them regarding the nature of the materials, structures or artifacts and any further actions to be taken.

Within the Inuvialuit Settlement Region the **Northwest Territories Land Use Regulations**, pursuant to the *Northwest Territories Lands Act* apply to Territorial Land. Again, two sections are relevant to archaeological sites:

9 (a). No permittee shall, unless expressly authorized in his permit or expressly authorized in writing by an inspector, conduct a land use operation within 30 metres of a known monument or a known or suspected archaeological site or burial ground; and

15. If, in the course of a land use operation, a suspected archaeological site or burial ground is unearthed or otherwise discovered, the permittee shall immediately

(a) suspend the land use operation on the site; and

(b) notify the engineer or an inspector of the location of the site and the nature of any unearthed materials, structures or artifacts.

On Inuvialuit private lands the **Inuvialuit Lands Administration Rules and Procedures** apply. One section is relevant to the protection of archaeological sites:

19(9) Where in the course of an operation, a suspected archaeological site or burial ground is unearthed or otherwise discovered, the Holder shall immediately:

(a) suspend the operation on the site; and

(b) notify the Administrator or an Inspector of the location of the site and the nature of any unearthed materials, structures or artifacts.

Development activities near archaeological sites are also regulated by the **Canada Oil and Gas Geophysical Operations Regulations** of the *Canada Oil and Gas Operations Act*. These apply on Crown and private land, including those in settled claim areas, in the NWT and Nunavut:

27. (1) Where an archaeological site or a burial ground is discovered during an onshore geophysical operation, the operator shall so inform a conservation officer and suspend the operation in the immediate area of the discovery until permitted by the conservation officer to resume the operation in that area.

(2) A conservation officer shall permit the resumption of a geophysical operation that was suspended under subsection (1) if the conservation officer, after consultation with the Minister of Communications,

is satisfied that the operation will not disturb the archaeological site or the burial ground and will not affect the archaeological or other special characteristics or the nature of the site or ground.

The ***Historical Resources Act*** pertains to Territorial Land. Protection of sites in these areas is afforded by:

1(2). If, in the opinion of the Minister, any prehistoric or historic remains, whether or not designated as an historic place under this Act or under the *Historic Sites and Monuments Act* (Canada) are threatened with destruction by reason of commercial, industrial, mining, mineral exploration or other activity, the Minister may order the persons undertaking the activity to provide for adequate investigation, recording and salvage of prehistoric or historic objects threatened with destruction.

The Inuvialuit, Gwich'in, Sahtu, and Tłıchǫ **land claim agreements** contain provisions regarding archaeological sites and we strongly advise that these documents be reviewed carefully.

For further information contact:



Prince of Wales Northern Heritage Centre
Yellowknife NT X1A 2L9
Telephone: 867-873-7258
Fax: 867-873-0205
Email: archaeology@gov.nt.ca
Web: <http://pwnhc.ca/programs/archa.htm>



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January 25, 2016

Mark Cliff Phillips, Executive Director

Mackenzie Valley Environmental Impact Review Board
200 Scotia Centre
Box 938, 5102-50th Ave
Yellowknife, NT X1A 2N7

Dear Mark:

Re: Response to Comments by the Reviewers- Draft Terms of Reference (DTOR) for the Howards Pass Access Road (HPAR)

Selwyn Chihong Mining Ltd. (SCML) has reviewed the Comments and Recommendations and has prepared a detailed response. During the SCML assessment, it was apparent that a number of the Comments and Recommendations were more related to the outcome of the Developers Assessment Report (DAR) versus the scope of the assessment as outlined in the Terms of Reference. SCML also found there is some confusion over Valued Components and proposed Key Lines of Inquiry and Subjects of Note.

However, SCML does appreciate the time and effort by the Reviewers and did find many Comments and Recommendations insightful which will be helpful for the preparation of the Developers Assessment Report. Please do not hesitate to contact the undersigned if you have questions or require additional clarification with any of SCML's responses to the Comments and Recommendations from the Reviewers.

Sincerely,
SELWYN CHIHONG MINING LTD.

Maurice Albert, VP External Affairs

c.c. Kate Mansfield, MVEIRB
Simon Toogood, MVEIRB
Stephen Morison, SLR Consulting

Review Comment Table

Board:	MVEIRB
Review Item:	EA1516-01, Selwyn Chihong, Howard's Pass Access Road Upgrade Project. The Developer's Proposed Terms of Reference
File(s):	
Proponent:	Selwyn Chihong Mining Ltd.
Document(s):	Developer's Proposed Terms of Reference (3 MB) Project description, water licence and land use permit application files (1MB) Updated Developer's Proposed Terms of Reference (1MB) Blacklined version of DPTOR for comparative purposes (1MB)
Item For Review Distributed On:	Sep 25 at 15:01 Distribution List Sep 25 at 15:06 Distribution List Sep 28 at 13:22 Distribution List Sep 28 at 13:25 Distribution List Oct 22 at 15:59 Distribution List Oct 30 at 08:46 Distribution List Nov 2 at 08:54 Distribution List
Reviewer Comments Due By:	Dec 11, 2015
Proponent Responses Due By:	Jan 25, 2016
Item Description:	The Developer's Proposed Terms of Reference for the Howard's Pass Access Road Upgrade Project environmental assessment.
General Reviewer Information:	<p>The Review Board is seeking comment from reviewers on the Developer's Proposed Terms of Reference only at this time. Supporting documents have been provided as context for the review of the Developer's Proposed Terms of Reference.</p> <p>When reviewing this document please keep in mind that the Terms of Reference is a list of all the topics that must be completely and clearly described by the Developer in the Developer's Assessment Report (DAR). The DAR should provide</p>

	<p>enough information to understand what the project is and what effects it may have. If there are topics that you feel are missing, or shouldn't be included, let the Review Board know.</p> <p>Please note that on October 29th, the Developer submitted an updated version of the DPToR which includes changes to Section 7, Assessment of Environmental Impacts and Cumulative Effects, Section 3.2, Scope of Assessment, and Section 8, Accidents and Malfunctions. The Developer submitted a blackline version of the document on November 6, 2015 in order to facilitate the comparative review of the original versus updated DPToRs.</p> <p>The Review Board will prepare its own draft Terms of Reference and will consider your comments when preparing it. The Review Board's ToR will also include information gathered during community scoping meetings held in Norman Wells, Tulita, Nahanni Butte, Ross River, and Watson Lake.</p> <p>Reviewers will have a further opportunity to review and provide comment on the Review Board's draft Terms of Reference.</p>
Contact Information:	<p>Kate Mansfield 867-766-7062</p> <p>Simon Toogood 867 766-7053</p>

ORS Review Table-Howard’s Pass Access Road Upgrade project
Developer’s Proposed Terms of Reference

ID	Reviewer	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	CPAWS - NT Chapter: Kris Brekke	CPAWS-NWT Comments	Comment CPAWS-NWT Comments EA1516-01 Selwyn Chihong HPAR Developer’s Proposed Terms of Reference Dec 11, 2015 Recommendation See Attachment for Comments and Recommendations	Comments from the table that forms part of this letter have been added to this table (by SCML)	
2	CPAWS - NT Chapter: Kris Brekke	Page 17 Key Lines of Inquiry	Comment The road will pass over many headwater tributaries of the South Nahanni River. Dust and large particles loosened from heavy traffic as well as debris released during quarrying and road maintenance could impact tributaries as well as groundwater and seasonal run-off. Recommendation Include Aquatic Ecosystems as a Key line of inquiry	<p>RATIONALE FOR RECOMMENDATION</p> <p>While SCML agrees that the potential for impacts on aquatic ecosystems is an important consideration, we do not think that it should be added as a Key line of inquiry. The reason is that the potential for damage to aquatic habitats from dust and debris from quarrying and road maintenance are issues with straightforward management solutions and for which there are guidelines and regulations. It is not that it is less important, but that it is a tractable problem and does not require the in-depth analysis needed for a Key line of inquiry. Potential impacts from spills and accidents on aquatic ecosystems are identified as a top priority and will be addressed through a Key line of inquiry. Both “Water and sediment” and “Fish and aquatic habitat” are recommended as subjects of note. This structure for the DAR will provide full coverage of this topic.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	This topic is adequately addressed in the Key Line of Inquiry for 'Accidents and Malfunctions', and in the Subject of Note 6.2.3.
3	CPAWS - NT Chapter: Kris Brekke	Page 17 Key Lines of Inquiry – Nahanni Caribou Herd	Comment Ecological Integrity (EI) should be explicitly mentioned in this Key line of inquiry as EI is a required component of Parks Canada’s management responsibilities as well EI can be a benchmark for measuring the successful mitigation of impacts to the aquatic environment, on mountain caribou, and on other species in the vicinity of the Howards Pass Road Recommendation State this Key line of inquiry as National Park Reserves /Ecological Integrity.	<p>RATIONALE FOR RECOMMENDATION</p> <p>In Table 2, the “Ecological Integrity” of the National Park Reserves is included as a Subject to consider. This is because the analysis of ecological integrity of the Park Reserves will necessarily draw upon and integrate the results of other analyses, be they presented as “Key Lines of Inquiry” or “Subjects of Note”. A separate and distinct VC will not serve to enhance the comprehensiveness of SCML’s evaluation.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	Ecological Integrity is captured in the evaluation of the National Park, based on the Park's mandates, which includes environmental integrity. See section 6.1.3 (5).
4	CPAWS - NT Chapter: Kris Brekke	Sec. 4.2.2 Pg. 25 Harvesting and Hunting	Comment It is very important that this section not be only dependent on historical and existing harvesting activities. It must also be forward looking. The road upgrade could significantly increase access for hunters and it is likely that available harvest data is very limited now because GNWT hunting regulations do not yet require mandatory harvest reporting. An estimate of future harvest pressure that considers real scenarios were road access has increased harvest of mountain caribou such as at the Canol Trail may provide a more certain view of future potential impacts.	<p>RATIONALE FOR RECOMMENDATION</p> <p>The access for hunting purposes is pre-existing and will not be changed by the project, except for limiting traffic during the operational phase for safety reasons. The HPAR is a public road. The permits applied for that triggered this environmental assessment start from the current time and current access for hunting is part of the existing conditions. As noted in Table 5 (see Traditional Land Use and Harvesting VC and Road, Lake and River Access and Use VC) the Developer’s Proposed Terms of Reference includes the consideration of future harvesting</p>	Relevant sections on harvesting capture concerns expressed by CPAWS and reflect the scope of assessment, as per ToR section 3.2. Past and existing effects are considered in the TOR with respect to how they are impacted by the project.

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			<p>Recommendation</p> <p>Update statement describing section 4.2.2 :</p> <p>“SCML will provide a description of historical, existing and a consideration of future harvesting activities” ...</p> <p>And add bullet :</p> <ul style="list-style-type: none"> • Impact of potential future harvest activities with a consideration of scenarios where a road has increased hunter access to mountain caribou 	<p>activities in the context of increased hunter access, but depending on decisions made about the road’s reclamation post-closure. Section 4.2.2 refers to baseline conditions which addresses historic and existing harvesting activities. Section 7.9 indicates that SCML will evaluate potential impacts of road closure (depending on decisions made regarding reclamation) on harvesting activities.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	
5	CPAWS - NT Chapter: Kris Brekke	Section 3.1 Table 1 Summary of the Scope of Development – Closure	<p>Comment It is reasonable that mountain caribou could at times gather in significant numbers on or in the area of the road causing risk to the herd and to vehicle operators. These risks could be anticipated based on the seasonal movement of the Nahanni Caribou Herd and risks could be mitigated through seasonal planned temporary road closures.</p> <p>Recommendation Under the heading “<u>Temporary suspension of road use:</u>” include a bullet to address the presence of wildlife.</p> <ul style="list-style-type: none"> • Closures to accommodate the presence and seasonal movements of mountain caribou 	<p>RATIONALE FOR RECOMMENDATION</p> <p>Table 1 is a summary of the Scope of Development by Project Phases. It is not intended to summarize mitigation measures that will be proposed in the DAR. Closures to accommodate the presence and seasonal movements of mountain caribou is a potential mitigation measure and is not appropriate for the Terms of Reference.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	Agree with Selwyn; consistent with determination on party's comments. The issue is addressed in Section 6, assessment of effects, and in section 8, alternatives.
6	CPAWS - NT Chapter: Kris Brekke	Section 7.14 Roadways, Lake and River Use	<p>Comment It should be made clear throughout the EA who has jurisdiction over sections of the road during construction, operations and closure. It is important to consider that the management of road access could have significant positive or negative influences on Cumulative Effects and will likely influence the successful follow through of commitments and mitigations agreed upon within the EA.</p> <p>Recommendation Expand the following statement to such that it includes an identification of jurisdictional and management authority for the road during construction, operations and closure.</p> <p>“The evaluation of effects related to roadways, lake and river use will be supplemented by management plans related to road access and road operations. Management plans will clearly describe the jurisdiction and role of authorities responsible for road access and road operations during the construction, operation and closure phases of the development.”</p>	SCML agrees with this comment and supports clarification of roles and responsibilities related to road access and road operations.	No comment/no change
1	Dehcho First Nations: Carrie Breneman	Dehcho First Nation Comments	DFN comments on the Developer Proposed Terms of Reference for EA1516-01	See attachment for comments and recommendations	No response required.
2	Dehcho First Nations: Carrie Breneman	1. Key Lines of	<p>Comment and Recommendations</p> <p>Key lines of inquiry within the Developers Assessment Report (DAR) are valued components that are considered to be a high priority. Key Lines of Inquiry (proposed by Selwyn) are: 1) Nahanni Caribou Herd: direct and</p>	This is useful input for the development of the DAR. The HPAR Upgrade Project Description Report (June 2015) recognizes the importance of the Nahanni Caribou Herd and the potential of the project to affect the herd. The set of issues raised by the reviewer are generally in line with	No comment/no change

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		Inquiry	<p>indirect effects on individual caribou and on the caribou herd from road traffic and road access; 2) Accidents and Malfunctions: with the priority focus on risk of spills from hauling concentrates, fuels and mine reagents during mine operation; potential impacts on aquatic and terrestrial ecosystems; 3) National Park Reserves: visitor access to park areas and visitor experience; park heritage and cultural resources; ecological integrity; 4) Benefits and effects on communities: including direct and indirect effects on employment and contracting opportunities; wage and salary income training and skill development; business opportunities and overall community wellness. DFN approves and is supportive of the key lines of inquiry proposed by Selwyn.</p> <p>Of the key lines of inquiry, the most significant concerns for DFN are impacts from proposed Road Upgrade on the Nahanni Caribou Herd and the benefits and effects on communities. DFN remains concerned regarding impacts to the Nahanni Caribou Herd from the HPAR, given the known sensitivity of woodland caribou (both boreal and mountain) to anthropogenic disturbance, the general decline of the species across Canada, and the importance of the species to DFN members. Woodland caribou range in North America has retracted northward and most populations across Canada are now in decline largely due to an increase in development (COSEWIC 2002). Industrial development can affect caribou directly, through conversion of habitat to infrastructure (e.g., roads and production pads), or indirectly, through the behavioral avoidance by caribou of industrial activities and structures (e.g., vehicles, aircraft, and power lines).</p> <p>In the case of the HPAR project, the Nahanni Caribou Herd's range will be bisected by an all-season road with heavy traffic volumes (200 vehicles per day). DFN's most significant concerns regarding the impacts of the HPAR on the Nahanni Caribou can be categorized as the following:</p> <ul style="list-style-type: none"> -Direct injury or mortality -Avoidance, loss of habitat and habitat effectiveness -Cumulative effects <p>Increased wildlife injury or mortality from collisions, hunting or from caribou fleeing from vehicles as a result of the project could occur along the HPAR. The HPAR could also act as a semipermeable barrier, restricting seasonal movements of the Nahanni Caribou Herd. This may adversely affect their access to seasonally important food sources and areas used as refugia from predators and insects. Avoidance of roadways by caribou is well demonstrated in scientific literature. Dyer et al. (2001)</p>	<p>those identified for follow-up by SCML based on its own baseline studies, information and concerns from potentially affected communities, and other relevant research and monitoring on caribou ecology and on impacts on caribou from roads. SCML will take this comment into consideration when developing the DAR. There are no changes to the Terms of Reference needed in association with this comment.</p>	

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			<p>demonstrated that Woodland caribou in Alberta use areas close to roads and seismic lines less frequently than expected. Avoidance effects (areas of reduced use) were demonstrated up to 500 m away from developments. Russell (2014) summarizes the zone of influence (ZOI) and displacement distances for caribou caused by all-season roads. He identifies in his review a ZOI of 4 km during construction of all-season roads and 1.5 km during road operations for barren-ground caribou in the NWT and NT. Recently published research has found Porcupine Caribou avoided the Dempster Highway shortly after its construction by 30 km and though after 20 years this distance had decreased to 18.5 km, the herd continues to avoid the highway (Johnson and Russell 2014). Beyond the impacts of the HPAR on the Nahanni Caribou Herd, effects can also be cumulative. The HPAR project coupled with the integration of environmental change such as fire regime can increase the complexity of impacts. In areas of the Yukon and Alaska, various climate scenarios have predicted an increase in fire regimes that will reduce the amount of wintering habitats for the herd by up to 21% (Gustine et al. 2014). The combination of losses of habitat from industry, highways, and forest fires is complex and their population implications are even more challenging to understand. The above identifies potential sources of impacts to the Nahanni Caribou Herd and the need for mitigation and best management practices to reduce these impacts. We also note that it is important to consider impacts to caribou that are not displaced by activities. Although the majority of caribou may decide not to use habitats adjacent to activities or areas of past disturbance, populations exhibit a wide range of behaviours and tolerances to disturbance. Individuals within a population have varying responses to disturbance; some individuals may avoid development and others may not, but both responses have an impact.</p>		
3	Dehcho First Nations: Carrie Breneman	1. Key Lines of Inquiry	<p>With respect to the benefit and effect on communities, DFN supports the comments made by NDDDB as they have been directly involved in the scoping sessions and have had direct discussions with Selwyn-Chihong and MVEIRB. We agree with NDDDB that the section of the ToR on Benefits and Effects on Communities should include more detailed valued components. These detailed value components should include: economic benefit and well-being, distribution of benefits, training and skill development, community wellness and community confidence and influence over the project.</p> <p>DFN also supports NDDDB recommendations for more detailed information and inquiry into economic effects and wellbeing. Specifically,</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>SCML considers the benefits and effects of the project on communities as a Key line of inquiry. This will ensure that a comprehensive analysis is undertaken. SCML intends to complete the analysis of the effects of the project on employment and contracting opportunities; wage and salary income; training and skills development; business opportunities and overall community wellness as separate and distinct evaluations as described in Section 7.13 of the Developer’s Proposed Terms of Reference. This scope addresses the issues identified by the reviewer. Issues such as employment targets will be considered in the design of SCML’s socio-economic initiatives. The Cooperation Agreements</p>	<p>Updates made to TOR capture both perspectives without being too onerous on SCML. See sections 3.3 and 3.4 for requirements for geographic and temporal scopes.</p>

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			DFN supports NDDDB work towards identifying employment targets, analyzing what barriers there may be to achieve those targets, reducing barriers and tracking success toward meeting those targets.	between SCML and potentially affected communities and any further SCML-Community Agreements to be developed as part of the Project are the mechanisms by which the reviewer's issues are being addressed by SCML. SCML notes that it has formal Cooperation Agreements with both Sahtu and Dehcho communities that cover the life of the Project. These communities have been involved in the HPAR project in every step along the way and will continue to be involved. RECOMMENDATION No change recommended based on this comment.	
4	Dehcho First Nations: Carrie Breneman	2. Geographic scope	Comment On page 18 of the ToR, Selwyn outlines the minimum geographic scope for Assessment of Valued Components. For the wildlife and wildlife habitat section, Selwyn states "Dependent upon species/population ranges and habitat requirements and also on potential effect being evaluated. " DFN finds that the geographic scope for the Wildlife and Wildlife habitat section to be vague. Recommendation DFN recommends that Selwyn provide greater detail on the geographic scope for wildlife species, particularly for the Nahanni Caribou Herd, as it is a Key line of inquiry within the DAR.	Agree with reviewer comment. RECOMMENDATION Adopt the wording recommended by Parks Canada: "Defined on a species-specific basis as an area large enough to assess potential impacts at a population level, taking into consideration the seasonal movements, migratory movements, and lifecycle requirements of each species".	Both Party and SCML agree on this point. TOR stays broad and non-prescriptive to allow species-specific habitat and biological needs to be included. See section 3.3 for updated DAR geographic scope requirements.
5	Dehcho First Nations: Carrie Breneman	3. Engagement	Comment On page 11, Selwyn lists that they have a life-of-mine cooperation agreement with DFN. DFN has referenced our files and has been unable to locate a life-of-mine cooperation agreement. We did, however, find meeting notes that there was an Executive Committee meeting where DFN and Selwyn discussed life-of-mine agreements on June 9, 2010. There has also been a change of staff during the time period that the meeting took place and the present. Recommendation DFN requests that Selwyn share the life-of-mine cooperation agreement with DFN.	RATIONALE FOR RECOMMENDATION The life-of-mine Cooperation Agreement is with NDDDB as directed by DFN RECOMMENDATION No change recommended based on this comment	No comment/no change
6	Dehcho First Nations: Carrie Breneman	4. Valued Components	Comment On page 15 and 16, Selwyn lists the valued components to be included in the DAR. For wildlife and wildlife habitat, Selwyn lists Northern mountain woodland caribou (Nahanni Caribou Herd), moose, grizzly bear, wolverine, breeding birds, cliff nesting raptors and waterfowl. Recommendation DFN recommends that Selwyn consider including Dall Sheep and mountain goats if they are present in the vicinity of the HPAR.	RATIONALE FOR RECOMMENDATION Mountain Goats Mountain goats have been identified in a small centre of habitation in the headwaters of March Creek – a tributary that crosses the HPAR at km 53.3. Mountain goats are known to be sensitive to aircraft over-flight activity. Hence SCML has limited the mountain goat survey efforts to minimize frequency of disturbance to them. Since 2007 biologists conducting the surveys have made 12 mountain goat observations that indicate that there are at least 10 mountain goats utilizing a traditional range here. The closest proximity that the HPAR comes to range used by mountain goats based on these surveys is at the Steel Creek bridge (km 62.7) which is about 4 km northwest of a south-facing escarpment	Dall's sheep and Mountain Goat are included in the TOR as part a component of Subject of Note: Wildlife and wildlife habitat. For greater context, Selwyn should include information on any species the project has the potential to affect. The project's potential to affect a species should determine the extent of SCML's

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				<p>used by the goats. It is unlikely that the goats will be exposed to HPAR activity. They should, however be identified as a subjects to consider and mitigations measures should be included to prevent potential disturbance from other activities such as avalanche control.</p> <p>Mountain Sheep</p> <p>Caribou post-calving surveys during mid-summer serve well to detect mountain sheep as they both occur in the same habitable range during this season. Since 2007 SCML has conducted intensive post-calving surveys of an area of the Selwyn Mountains that includes the HPAR corridor and is 2446 km² in size, utilizing over 60 hours of survey flight time. The surveys detected 2 female mountain sheep transiting through an area about 7.5 km south of XY camp (which is located in the Yukon). Subsequent survey of the area did not locate these sheep. Hence they must have moved on to more suitable range, as they would not have survived a winter in the HPAR area. Mountain sheep are known to inhabit snow-shadow regions and semi-arid climates. Snow conditions in the ungulate study areas likely are too excessive for mountain sheep to occur there. SCML is not aware of any previous surveys or historical records that identify mountain sheep as a component species in this area. Therefore, mountain sheep have not been identified as a Subject to consider in the wildlife and wildlife habitat VC.</p> <p>RECOMMENDATION</p> <ol style="list-style-type: none"> 1. Add mountain goats to the list of Subjects to consider for the Wildlife and wildlife habitat VC. 2. Do not add Dall's sheep to this list. 	<p>investigation, which includes sensory disturbances. Section 5.1.7 and 6.2.6 outline the requirements for SCML's investigation.</p>
7	Dehcho First Nations: Carrie Breneman	4. Valued Components	<p>Comment Selwyn also lists Traditional Land Use and harvesting as valued components under the DAR with subjects to consider as past and current traditional use.</p> <p>Recommendation DFN recommends that Selwyn provide more explicit detail on what traditional land use and harvesting activities they are currently considering under this section. We understand that the list is preliminary and may be subject to change, however, providing a preliminary list would provide a starting point for DFN and other reviewers to consider.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Section 7.9 of the Developer's Proposed Terms of Reference includes the consideration of fishing, hunting, trapping and gathering of fish, wildlife and vegetation for human use. Human use includes, for example, food, medicine, furs, or the dissemination of culture. SCML would consider the effects of the project on such traditional activities should future consultations or currently available or traditional knowledge studies that might be undertaken determine that the area is utilized for such purposes. Section 4.2.2 of the Developer's Proposed Terms of Reference also includes the consideration of Aboriginal recreational and commercial harvesting should these activities be undertaken in the area.</p> <p>The HPAR Upgrade Project Description Report (June 2015) noted areas to the north of Howard's Pass as being utilized by the Mountain Dene for generations, and as being part of their traditional lands, though the</p>	<p>Detailed information on TK use and studies will be provided in the DAR. See ToR sections 5.2.2 and 6.2.10.</p>

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				<p>younger generations rarely access this region for subsistence activities in current times. To our knowledge, no documented traditional knowledge pertinent to the HPAR area is available from the Dehcho First Nation. The Naha Dehé Dene of Nahanni Butte do not currently access the area for subsistence activities, but they harvest animals from the Nahanni Caribou Herd (whose range includes the HPAR corridor) when the caribou are in their winter range along the South Nahanni River.</p> <p>Traditional knowledge studies that might be undertaken may provide further insight into traditional values and past and present uses of lands surrounding the HPAR.</p> <p>RECOMMENDATION: No change recommended based on this comment.</p>	
8	Dehcho First Nations: Carrie Breneman	5. Assessment of Environmental Impacts and Cumulative Effects	<p>Comment Selwyn will identify and assess the effects of the development on the biophysical and human environment. 5.1 DFN notes that Selwyn is considering artificial light as an environmental impact on wildlife. Recommendation DFN recommends that Selwyn consider the following when including artificial light as an environmental impact on wildlife: Artificial lights used at night alter the natural patterns of daytime and night and although this effect is not well understood, however, several studies indicate that light pollution has an adverse effect on wildlife (Longcore and Rich 2004; Miller 2006; Jones and Francis 2003). Studies indicate that attraction to and disorientation from artificial lights at night can result in an increase in structure related mortality, particularly for bird species (Longcore and Rich 2004; Jones and Francis 2003). In contrast, artificial light may also be avoided by wildlife causing displacement. Finally, night-time artificial light can also alter predator-prey dynamics by increasing predation levels (Jones and Francis 2003).</p>	<p>RATIONALE FOR RECOMMENDATION This topic is included in the Developer’s Proposed Terms of Reference (bullet 2 under Proposed subjects of note in Section 3.2.5, and Section 7.2.2.2). The recommendation is useful information for the development of the DAR.</p> <p>RECOMMENDATION No change recommended based on this comment.</p>	Consideration for artificial light is included in section ToR 6.2.2.
9	Dehcho First Nations: Carrie Breneman	5. Assessment of Environmental Impacts and Cumulative Effects	<p>Recommendation 5.2. In Section 7.6 Fish and Aquatic Habitat, DFN recommends Selwyn consider the effects of hanging culverts on aquatic ecosystems (if culverts are part of their design plan). Healthy aquatic habitats and ecosystem functions require habitat connectivity. Hanging culverts act as a barrier to habitat connectivity by altering the flow of water and blocking the movement of fish and other aquatic organisms. Hanging culverts can prevent fish from reaching key areas of their habitat (such as spawning or feeding grounds), which results in lower fish populations, less species diversity and lower genetic diversity to keep populations healthy. The effects of hanging culverts can extend beyond fish species. Many other species such as birds, water shrews and minks feed on and rely upon abundant fish and/or aquatic insects populations.</p>	<p>RATIONALE FOR RECOMMENDATION Hanging culverts are typically seen in high gradient areas. Fish habitat along the HPAR is restricted to watercourses with maximum demonstrated gradients only between 5 to 10%. Many culverts only become hanging after many years and as a result of road-bed erosion along the side of the road prism. SCML considers that proper installation and maintenance of culverts at all watercourse crossings, not just fish-bearing, should incorporate measures to prevent hanging culverts as a means of preserving water quality throughout the watershed downstream of all crossings. However, a separate study on this is not required. Section 7.2.5.1 includes “effects of watercourse crossings” and “blockages to movement”, which covers consideration of</p>	Concern captured in sufficient detail in TOR and through assessment of the issue of concern, fish passage/blockage.

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			In a study published in 2008 (Park et al 2008), 50% of the culverts surveyed (in four watersheds within Alberta) were hanging and the occurrence of a hanging culvert was positively and significantly related to culvert age and reach slope.	the potential for hanging culverts to develop. RECOMMENDATION No change recommended based on this comment.	
10	Dehcho First Nations: Carrie Breneman	5. Assessment of Environmental Impacts and Cumulative Effects	<p>Comment 5.3 In Section 7.7 Wildlife and Wildlife Habitat, Selwyn outlines that they will evaluate the effect of the project on wildlife and wildlife habitat.</p> <p>Recommendation DFN recommends that Selwyn considers the following within this section:</p> <ul style="list-style-type: none"> - Effects on predator-prey relationships <p>In this section, Selwyn indicates that they will consider “effects on predator-prey relationships including for birds and bird eggs”. DFN recommends Selwyn consider the effect of both direct predation on prey and the effect of stress on prey (if the predator population increases or is redistributed). The cost of defensive strategies (against predators) on caribou can include reduced energy income, energetic investment in defensive structures, lower mating success and increased vulnerability to other predators. A study conducted by Preisser et al (2005) found that the impact of intimidation on prey demographics was at least as strong as direct consumption.</p> <p>When considering the effect of predator-prey relationships with reference to the Nahanni Caribou Herd, DFN also recommends that Selwyn consider increased efficiency for travel from reduced snow along the HPAR (for both the Nahanni Caribou Herd and predators).</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>While SCML is aware of this as an issue and has included effects on predator-prey relationships as a topic for assessment (Section 7.1.1.3 for caribou and Section 7.2.6.4 for wildlife populations in general). SCML would prefer to keep this topic as it is in the Developer’s Proposed Terms of Reference and not specify assessment of a list of possible aspects of effects on predator-prey relationships. Quantifying project effects on predator-prey dynamics is difficult and there are no reasonable methods for quantifying some of the aspects listed, such as “intimidation” or stress on wildlife populations.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	<p>TOR needs to identify what areas to assess and watch out for, but Selwyn is responsible for determining an appropriate methodology. If DFN has concerns with the methodology, it can seek elaboration in the IR rounds.</p> <p>It is worthwhile to note that the TOR represents minimal requirements and that the DAR can elaborate or expand on any additional predicted impacts.</p>
11	Dehcho First Nations: Carrie Breneman	5. Assessment of Environmental Impacts and Cumulative Effects	<p>Comment In Section, 7.7 Selwyn also considers increased human-wildlife conflicts.</p> <p>Recommendation DFN recommends Selwyn consider wildlife attractants within this section particularly during the construction phase.</p>	<p>SCML agrees with the reviewer’s comment.</p> <p>RECOMMENDATION</p> <p>Revise Section 7.2.6.2 to “Potential for and measures to reduce conflicts (e.g., bear encounters) and wildlife attractants in camps and during construction and maintenance activities.”</p>	No changes required - TOR captures this issue, as identified by Selwyn. See Table 1.
12	Dehcho First Nations: Carrie Breneman	6. Project Description for Operations Phase	<p>Comment On page 30, Selwyn indicates that they will consider avalanche and terrain hazard management control during the road maintenance phase.</p> <p>Recommendation DFN recommends Selwyn make the link between avalanche control and potential impacts to wildlife within the DAR, specifically outlining protocol to detect wildlife presence when considering avalanche control.</p>	<p>RECOMMENDATION</p> <p>SCML agrees with this comment.</p>	Both parties agree. See ToR section 6.2.6.1 (2).

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13	Dehcho First Nations: Carrie Breneman	7. Alternatives within the project	Comment DFN remains concerned regarding the traffic volumes proposed along the HPAR. Recommendation DFN recommends that Selwyn provide a consideration of seasonal decreases in transportation volume or actions that may trigger decreases in transportation.	RATIONALE FOR RECOMMENDATION This will be considered in the Alternatives Assessment (Section 8.2-Alternatives within the Project and 8.3-Alternatives Analysis). RECOMMENDATION No change recommended based on this comment.	Seasonal effects on traffic volume are included in the TOR. See section 5.2.1.4 (3) and 6.2.12.2 (3).
14	Dehcho First Nations: Carrie Breneman	8. Management Plans	Recommendation DFN recommends that Selwyn provide a preliminary list of management plans associated with the DAR. We acknowledge that Selwyn has provided mention of management plans associated with the DAR throughout the document; however, it would be helpful for reviewers to have an initial list of management plans in one location in the document.	RATIONALE FOR RECOMMENDATION Table 11.1 of the HPAR Upgrade Project Description Report (June 2015) provides a list of the management plans being developed by SCML along with other proposed management plans that would be included in the DAR. The number and nature of these plans will continue to evolve throughout the assessment process. Section 5.5 of the Developer's Proposed Terms of Reference indicates that SCML will provide a list of all monitoring and management plans as part of the DAR, and that these plans, in either final or interim versions will be submitted as appropriate to the DAR for adequacy review. RECOMMENDATION No change recommended based on this comment.	See ToR sections 4.11 and 9.
15	Dehcho First Nations: Carrie Breneman	9. Commitment Table	Recommendation DFN recommends Selwyn provide a summary of commitments made in the HPAR DAR. In this case, commitments are intended to address project-specific issues raised by the reviewers and others.	SCML agrees with the reviewer's comment. RECOMMENDATION SCML recommends that the Terms of Reference require that a summary of commitments made by SCML in the DAR and additional commitments made to address project-specific issues raised during the DAR review process be prepared and updated periodically.	See ToR sections 2.4 and 9.
16	Dehcho First Nations: Carrie Breneman	10. ToR Concordance Table	Recommendation DFN recommends that Selwyn include ToR concordance table to append to the HPAR DAR.	SCML agrees with the reviewer's comment. RECOMMENDATION SCML recommends that the Terms of Reference require SCML to include a concordance table as part of the HPAR DAR.	Both Party and SCML agree on this point. See TOR section 2.4.
1	GNWT - Lands: Kyle Christiansen	Selwyn Chihong, Howard's Pass Access Road Upgrade Project	Comment Inspectors have no concerns with the proposed terms of reference. Recommendation Accept the terms of reference.	No response required.	No response required.
1	GNWT - Lands: Paul Mercredi	General File	Comment Signed GNWT comments letter - HPAR upgrade EA - Developer's Proposed ToR	No response is needed to this cover letter.	No response required.
2	GNWT - Lands: Paul Mercredi	p.10, Section 1.4 - Legal context of	Comment In the PDR, SCML appears to state that portions of the proposed project "could potentially be exempted from Part 5, which covers matters pertaining to the [MVEIRB]" under "section 157.1 of the	RATIONALE FOR RECOMMENDATION Section 3.1 of the Developer's Proposed Terms of Reference describes the scope of the development that is subject to a review under the	157.1 does not apply to the HPAR upgrade EA. The ToR will not make reference to

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		Terms of Reference/scope of development; pdf-page 179 (text-page 165) of the Project Description Report (Public Registry item #9).	MVRMA." Recommendation For and fairness for all parties, GNWT requests either that SCML clarify this statement, and its applicability to this proceeding, or that the MVEIRB indicate definitively the applicability or not, to any extent, of MVRMA section 157.1 to this proceeding.	MVRMA. As indicated in the HPAR Upgrade Project Description Report (June 2015) (Section 9.1) and reflected in the Developer's Proposed Terms of Reference, SCML will not be assessing construction impacts of already built structures or components which are exempt under Section 157.1 of the MVRMA. RECOMMENDATION The Terms of Reference should make direct reference to the February 27, 2006 MVLWB Staff Report, where the Board recognized that certain activities related to the HPAR are exempt from Part 5 of the MVRMA under provisions of Section 157.1. This includes activities that were assessed and then permitted under Land Use Permits and Water Licenses prior to the establishment of the Mackenzie Valley Resource Management Act.	the 2006 decision as it is not relevant to this EA. The use of existing infrastructure will be considered in this EA. Any past effects from the existing HPAR will be considered in the assessment of cumulative effects.
3	GNWT - Lands: Paul Mercredi	Voice - pp 10-12 Section 2.2 – Incorporation of Traditional Knowledge, Section 2.3 – Public Engagement	Comment The final Terms of Reference will be a series of directives from the Review Board to the developer. It is important that, to maintain an appearance of fairness with respect to the implementation of the EA process, the Terms of Reference not be seen as a platform for promotion of the development. In several places, the Developer's Proposed TOR appears to present conclusions about the development, rather than directive statements for impact assessment. It is important that MVEIRB communicate its conclusions in relation to the development's beneficial or adverse impacts on the Mackenzie Valley in the appropriate document, i.e. the Report of Environmental Assessment. Recommendation Section 2.2, as well as 2.3, of the DAR reads more as a 'log of engagement' than as a directive to the company. Please remove and replace with instructions regarding 'appropriate incorporation of TK in the DAR.' There are several examples of inappropriate voice throughout the Terms of Reference. GNWT requests that the MVEIRB review the Terms of Reference for such instances, and remove as appropriate.	RATIONALE FOR RECOMMENDATION The information provided in the Developer's Proposed Terms of Reference was intended to inform the Board of SCML's commitments to the incorporation of traditional knowledge and public engagement. RECOMMENDATION The Final Terms of Reference issued by the Board should reflect these commitments.	Noted, addressed in ToR
4	GNWT - Lands: Paul Mercredi	Voice	Comment None Recommendation Remove company logo.	SCML agrees with the reviewer's comment. RECOMMENATION: The final Terms of Reference will need to be a MVEIRB document. The SCML logo should be removed.	Noted, addressed in ToR
5	GNWT - Lands: Paul	Voice - p. 48, Section 9,	Comment The final paragraph summarizes the developer's views. Recommendation Remove last paragraph from section '9 Cumulative	RATONALE The Developer's Proposed Terms of Reference is based on SCML's	Noted, addressed in ToR

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	Mercredi	Cumulative Effects	Effects.' GNWT acknowledges that MVEIRB may choose to provide direction on these matters in the final TOR.	experience in conducting cumulative effects assessment, available guidance material and past EA practice in the NWT. In this case, the consideration of beneficial effects, the effects of accidents and malfunctions and the effects of the environment on the project are not considered to be appropriate subjects for consideration in a cumulative effects assessment. RECOMMENDATION No change recommended based on this comment.	
6	GNWT - Lands: Paul Mercredi	Voice	Comment At various places, there appears to be instructions for 'discussion of risk,' as opposed to a quantitative (and where appropriate qualitative) presentation of impacts (be they beneficial or adverse) to the environment from the development. This is apparent most in the first Key line of inquiry. Recommendation Throughout the Terms of Reference change to language that best fosters a robust and balanced presentation of impacts from the development.	SCML agrees with the reviewer's comment RECOMMENDATION The Terms of Reference should be reviewed to ensure the term "risk" is used in the context of an assessment of potential accidents and malfunctions (e.g., the risk of spills, geohazards) rather than environmental effects.	Noted, addressed in ToR. The final ToR will direct the developer to conduct a quantitative and where appropriate, qualitative, risk assessment. This will be made explicit through the description of requirements for the KLOI of Accidents and Malfunctions.
7	GNWT - Lands: Paul Mercredi	Voice	Comment Tables 3, 4 and 5 - for a directive document - appear to have unnecessarily restricted the MVEIRB's ability to scope appropriately for this EA. Recommendation Remove the rationale portion of the tables, as well as the inherent restrictive language.	SCML has completed the Developer's Proposed Terms of Reference in the template provided by the MVEIRB which requires the provision of a rationale for the Board to consider.	The information in the tables in question are overly specific for a ToR. These tables were removed from the ToR and replaced with generic direction to the Developer to describe appropriate boundaries in the DAR.
8	GNWT - Lands: Paul Mercredi	Scope of development, operational phase	Comment Various items regarding traffic management require analysis during this EA. In the context of any risk assessment, assessors must evaluate the impact with the likelihood of a certain event. In order to assess the impact of a spill of a reagent, it is appropriate to have knowledge of the properties of that reagent. The same is true for all other materials that would be transported along the upgraded HPAR. Recommendation Add: vehicular speed; accident response time; listing of all material, their properties and amounts, and frequency of transport.	RATIONALE These items are covered in Table 1 under operations. RECOMMENDATION No change recommended based on this comment	These items are included in the scope of development considerations (Tables: 1, 2 and 3)
9	GNWT - Lands: Paul Mercredi	3.3 Geographic scope	Comment Table 3 lists a number of valued components, including the second-last row listing potentially affected communities. This listing is too restrictive. Recommendation Please broaden the listing to include the communities of the Mackenzie Valley, as well as those of Ross River, Yukon and Watson Lake, Yukon - the MVEIRB's mandate is broad enough to include	RATIONALE FOR RECOMMENDATION The list of potentially affected communities proposed in the Draft terms of reference is based on the discussions with SSI, DFN and MVLWB. Expanding to the communities of the "Mackenzie Valley" seems excessive considering the distances involved, the lack of potential effects of this project and the traditional use of the HPAR area.	The list of communities in the ToR is appropriate. No change required. Under the MVRMA the Review Board can and will consider potential effects to all

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			them and other NWT communities.	RECOMMENDATION No change recommended based on this comment.	communities and peoples of the Mackenzie Valley. The listing of potentially affected communities in the ToR does not limit the Review Board from considering other communities should evidence be brought forward during this EA that indicates potential effects.
10	GNWT - Lands: Paul Mercredi	3.3 Geographic Scope (Table 3, Table 4)	<p>Comment</p> <p>The minimum geographic scope for the assessment of Heritage Resources in Table 2 is "Project footprint and within 30 m of the edge of the project footprint." The rationale for this scope, provided in Table 4, is "this distance of 30 m from the proposed disturbance conforms to the Mackenzie Valley Land Use Regulations, section 6(a)." These statements do not acknowledge Conformity Requirement 4 of the Sahtu Land Use Plan: "1) Land use activities must not be located within 500 m of known or suspected burial sites, or within 150 m of known or suspected archaeological sites, unless measures are developed in cooperation with the Prince of Wales Northern Heritage Centre, affected communities, or in the case of burial sites, with affected families where possible, to fully mitigate all impacts to the site.</p> <p>The Prince of Wales Northern Heritage Centre agrees that a study area for the archaeological impact assessment (AIA) of the project based on the project footprint and 30 m from the edge of the project footprint is sufficient for the HPAR, but the proponent will need to consider Conformity Requirement 4 when determining how to manage archaeological sites recorded in the study area during the AIA.</p> <p>Recommendation Update Table 3 and 4 to account for CR#4 of the Sahtu Land Use Plan.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>SCML agrees with the Prince of Wales Northern Heritage Centre that a study area for the archaeological impact assessment (AIA) of the project based on the project footprint and 30 m from the edge of the project footprint is sufficient for the HPAR.</p> <p>SCML is aware of the land use plans and regulations identified by the reviewer and will comply with them as they apply to HPAR. SCML acknowledges the role that CR#4 of the Sahtu Land Use Plan will play in the management of archaeological sites recorded in the study area.</p> <p>RECOMMENATION</p> <p>Tables 3 and 4 should be updated to include reference to the requirements of relevant provisions of existing land use plans.</p>	The Review Board understands that the Developer will include the requested information in its DAR. Tables 3 and 4 were replaced with sections 3.3 and 3.4. The requested information will be included in these sections.
11	GNWT - Lands: Paul Mercredi	Scope of assessment, valued components	<p>Comment Lakes and other waterbodies are not explicitly mentioned in Table 2.</p> <p>Recommendation Add lakes to scope of assessment along route, to the extent there are any.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Fish and Aquatic habitat is listed in Table 2 which includes lakes and wetlands as a Subject to consider.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment</p>	The requested information is found in Tables 1, 2 and 3.
12	GNWT - Lands: Paul Mercredi	3.4 Temporal Scope Table 5	<p>Comment The temporal scope and rationale (Table 5) for Heritage Resources is limited to the construction period of the project. In some cases, such as the Tibbitt to Contwoyto Road, archaeological sites adjacent to the road are monitored on an annual basis to ensure that</p>	<p>RECOMMENDATION</p> <p>Agree with the recommended change, with the following wording: "Heritage resources will also be considered for operation and project closure phases where appropriate."</p>	The information requested is found in Table 1, 2 and 3.

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			they are not being impacted by road operations. Archaeological site avoidance must also be maintained during closure activities. As the results of the archaeological impact assessment (AIA) of the HPAR are not yet available, the GNWT does not know if specific measures related to heritage resource protection will be required for the operations and closure phases of the project, but recommend that the developer considers this possibility in the DAR. Recommendation Add operation and closure project phases to the temporal scope in Table 5.		
13	GNWT - Lands: Paul Mercredi	Page 15 - Table 1 - Operations	Comment None Recommendation Add cleaning the vehicles of contaminants before getting onto the road.	RATIONALE FOR RECOMMENDATION Table 1 is a summary of the scope of development by project phases. It is not intended to summarize mitigation measures that will be proposed in the DAR. Cleaning of vehicles is a potential mitigation measure and is not appropriate for the TOR. RECOMMENDATION No change recommended based on this comment	No change made. This is a potential course of mitigation, not an information requirement for the ToR. Further, Table 1 was replaced. This concern can be explored during the EA.
14	GNWT - Lands: Paul Mercredi	Page 15, Table 1 - Sediment and Erosion Control	Comment While erosion and sediment control are specifically included under "construction" and "closure" there is no mention of sediment and erosion control measures under "Operations". Sediment and erosion control will be important during bridge and culvert maintenance (which is listed under Operations) and dust control will still be required. Recommendation GNWT recommends that erosion and sediment control as well as dust control along the HPAR be included under Operations.	SCML agrees with the reviewer's comment.	This information is found in Table 2, under Road Maintenance.
15	GNWT - Lands: Paul Mercredi	Page 16, Table 2 - Ecosystem Components - Fish and aquatic habitat	Comment Section 3.2 lists Arctic grayling and lake trout under fish and aquatic habitat but the rationale for the selection of these species is unclear. Given the presence of Bull Trout within the nearby Flat River and their current status - Federal Species at Risk Act : Under Consideration; COSEWIC Assessment : Special Concern, NWT General Status Rank : May Be At Risk (http://www.nwt-species-at-risk.ca/en/content/bull-trout), it may appropriate to consider Bull Trout as a Valued Component if there is a potential it that may occur in the project area. GNWT notes that this was also mentioned by both DFO and CPAWS at the October 15th, 2015 scoping session in Yellowknife. Recommendation GNWT recommends the inclusion of Bull Trout as a Valued Component and/or rationale for the selection of only Arctic grayling and lake trout as "subjects to consider" under "Fish and Aquatic Habitat".	RATIONALE FOR RECOMMENDATION Bull trout Based on work undertaken by SCML and on literature review of recent papers on bull trout distribution, it is highly unlikely that bull trout occur in the Little Nahanni River or upper Flat River watersheds. Fish surveys were conducted by Parks, DFO and others, 2004-2007 with a primary aim of documentation of bull trout distribution in the South Nahanni watershed. Sites in the Little Nahanni, Steel Creek and Flat Lakes were included. Habitat favourable to bull trout was targeted. The study included literature review and use of local knowledge. Extensive surveys over four years did not find any bull trout upstream of Virginia Falls. The authors consider that the few previous unverified records upstream of Virginia Falls were likely misidentified lake trout. (Babaluk, J. A., Sawatzky, C. D., Watkinson, D. A., Tate, D. P., Mochnacz, N. J., & Reist, J. D. (2015). Distributions of Fish Species within the South Nahanni River Watershed, Northwest Territories. Winnipeg: Canadian	The information requested is found in the following sections. Section 3.3.5 of the ToR directs the developer to consider all fish species. Section 5.1.8 directs the developer to provide background and baseline information on all relevant fish. Section 6.2.5 directs the developer to conduct an effects assessment of fish species potentially impacted by the proposed HPAR project.

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				<p>Manuscript Report of Fisheries and Aquatic Sciences 3064. Fisheries and Oceans Canada.) None of the reports of past aquatic inventories in the area indicated bull trout as present. They were not detected in the fish and fish habitat survey conducted in 2014 by Triton Environmental Services for SCML (HPAR Upgrade Project Description Report June 2015 section 4.2.6). It is highly improbable that multiple sampling methods across all sample sites would not have detected this species had it been present.</p> <p>Selection of VC fish species</p> <p>Arctic grayling and lake trout were selected for special attention (subjects to consider) as they are considered the species most likely to be affected by the development, based on their presence in or near the streams crossing the road, and the lakes and river near the road, and on their sensitivity, especially during spawning and rearing, to water quality degradation and habitat disturbance. Nonetheless, the proposed VC is 'Fish and aquatic habitat'. This is inclusive of all fish species present in at the stream crossings and in the downstream zone of potential influence, and is inclusive of overwintering and rearing habitat.</p> <p>RECOMMENDATION</p> <ol style="list-style-type: none"> 1. Do not add bull trout as a Subject to consider for the Fish and aquatic habitat VC (Table 2). 2. For clarity, revise the Subjects to consider for the VC Fish and aquatic habitat (Table 2) to: "year-round effects on fish species present with particular consideration of Arctic grayling and lake trout; spawning and rearing habitat quality; lake and wetland habitat and connectivity." 	
16	GNWT - Lands: Paul Mercredi	Page 16 – Table 2 - Valued Components – Wildlife and wildlife habitat	<p>Comment The project may have impacts on more than just the Nahanni Caribou Herd. Adjacent herds (Redstone Mountain Caribou and Finlayson Herds) might be impacted by the project (Reference COSEWIC Report - http://www.sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Caribou_Northern_Central_Southern_2014_e.pdf).</p> <p>Recommendation Change from "Northern mountain woodland caribou (Nahanni Caribou Herd)" to "Northern mountain woodland caribou" in the scope of assessment.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>The Finlayson herd is potentially affected by the proposed Selwyn mine in areas to the west of the mine, but its range is not along the HPAR and it is not potentially affected by the HPAR. The Redstone herd is well to the north and is not potentially affected. There is no evidence that these herds overlap with the study area.</p> <p>RECOMMENDATION</p> <p>Maintain the focus on the Nahanni Caribou Herd for the Key line of inquiry (do not replace this with "northern mountain woodland caribou")</p>	The KLOI includes effects to all caribou. The focus is maintained on the Nahanni Caribou Herd.
17	GNWT - Lands: Paul Mercredi	Table 2: Valued Components/Human/ecosystem components	<p>Comment The Heritage Resources valued component should list burial sites as a separate category.</p> <p>Recommendation Add burial sites to Heritage Resource valued component in Table 2.</p>	<p>RECOMMENDATION</p> <p>The subjects to consider for the Heritage Resources VC should be made consistent with the definition of "heritage resources" in the MVRMA to include "archaeological or historic sites, burial sites, artifacts and other</p>	The information requested is found in Section 3.2.5 of the ToR.

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				objects of historical, cultural or religious significance, and historical or cultural records".	
18	GNWT - Lands: Paul Mercredi	Page 16, Table 2- Physical Environment Components - Water and sediment quality	Comment Regarding "Water and Sediment Quality" the qualifier related to water and stream sediment is related to spills. GNWT notes that "spills" are inclusive of both hydrocarbons and sewage, as well as sediment releases. Recommendation GNWT recommends that spills include hydrocarbons, sewage and sediment.	RATIONALE FOR RECOMMENDATION SCML agrees with the reviewer's comment. RECOMMENDATION The Terms of Reference should be modified to give consideration to the effects of potential spills of hydrocarbons and sewage as well as sediment releases.	The requested considerations are found in the KLOI for Accidents and Malfunctions.
19	GNWT - Lands: Paul Mercredi	Page 16 - Table 2: Valued Components - Ecosystem Components - Wildlife and Wildlife Habitat	Comment Mountain goats and Dall's sheep are missing from the list of valued components for wildlife. Most mountain goats in the NWT are in the Dehcho and there are not likely to be more than 1500 goats in the entire NWT, which makes them the rarest large mammal in the territory. The range of mountain goats in the Sahtu is restricted to an area along and just north of the Settlement Area's southern boundary in the western side of the Mackenzie Mountains. It is likely that there are not more than 200 mountain goats in the Sahtu and these represent the northernmost mountain goats in Canada. The area around the Little Nahanni River also includes a resident population of Dall's sheep that could date back to the end of the last glaciations when the Mackenzie Mountains served as a refugium for Dall's sheep and other species. Dall's sheep do not usually migrate over any great distances, and once removed from an area because of disturbance or other factors, will generally either be slow to recolonize or may permanently abandon the area. Recommendation Add mountain goat and Dall's sheep to the list of wildlife VCs in Table 2.	RATIONALE FOR RECOMMENDATION Mountain Goats Mountain goats have been identified in a small centre of habitation in the headwaters of March Creek – a tributary that crosses the HPAR at km 53.3. Mountain goats are known to be sensitive to aircraft over-flight activity. Hence SCML has limited the mountain goat survey efforts to minimize frequency of disturbance to them. Since 2007 biologists conducting the surveys have made 12 mountain goat observations that indicate that there are at least 10 mountain goats utilizing a traditional range here. The closest proximity that the HPAR comes to range used by mountain goats based on these surveys is at the Steel Creek bridge (km 62.7) which is about 4 km northwest of a south-facing escarpment used by the goats. It is unlikely that the goats will be exposed to HPAR activity. They should, however be identified as a subjects to consider and mitigations measures should be included to prevent potential disturbance from other activities such as avalanche control. Mountain Sheep Caribou post-calving surveys during mid-summer serve well to detect mountain sheep as they both occur in the same habitable range during this season. Since 2007 SCML has conducted intensive post-calving surveys of an area of the Selwyn Mountains that includes the HPAR corridor and is 2446 km ² in size, utilizing over 60 hours of survey flight time. The surveys detected 2 female mountain sheep transiting through an area about 7.5 km south of XY camp (which is located in the Yukon). Subsequent survey of the area did not locate these sheep. Hence they must have moved on to more suitable range, as they would not have survived a winter in the HPAR area. Mountain sheep are known to inhabit snow-shadow regions and semi-arid climates. Snow conditions in the ungulate study areas likely are too excessive for mountain sheep to occur there. SCML is not aware of any previous surveys or historical records that identify mountain sheep as a component species in this	The ToR requests that the Developer consider effects to all wildlife potentially affected by the proposed HPAR project. The developer will provide rationale in the DAR for which species were considered and which ones were not. Section 6.2.6 of the ToR requests an assessment on all wildlife and includes specific mention of mountain goat.

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				<p>area. Therefore, mountain sheep have not been identified as a Subject to consider in the wildlife and wildlife habitat VC.</p> <p>RECOMMENDATION</p> <ol style="list-style-type: none"> 1. Add mountain goats to the list of Subjects to consider for the Wildlife and wildlife habitat VC. 2. Do not add Dall's sheep to this list. 	
20	GNWT - Lands: Paul Mercredi	Page 16 - Table 2: Valued Components - Ecosystem Components - Human Ecosystem Components - Traditional land use, harvesting	<p>Comment The project may impact more than just traditional land use and harvesting within the study area, as the project falls within a wildlife management unit where there may be outfitters conducting guided hunting (Reference from NWT Summary of Hunting Regulations - Outfitters Management Area Map), page 17).</p> <p>Recommendation Add past and current commercial and recreational use as subjects to consider.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Recreational use is considered under the "Road, Lake and River Access and Use" VC.</p> <p>RECOMMENDATION</p> <p>Commercial uses should be added as a Subject to consider under the "Road, Lake and River Access and Use" VC.</p>	The information requested is found in Section 5.2.1.3 Tourism and Recreational Use, Section 6.2.9, Non Aboriginal Hunting and Fishing, and Section 6.2.12.
21	GNWT - Lands: Paul Mercredi	Page 17 - 3.2.4 - Key Lines of Inquiry	<p>Comment The project may have impacts on more than just the Nahanni Caribou Herd. Adjacent herds (Redstone Mountain Caribou and Finlayson Herds) might be impacted by the project (Reference COSEWIC Report - http://www.sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Caribou_Northern_Central_Southern_2014_e.pdf).</p> <p>Recommendation Change the Key line of inquiry from "Nahanni Caribou Herd" to "Northern mountain woodland caribou" to ensure that all caribou herds that overlap with the study area are included in the assessment.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>The Finlayson herd is potentially affected by the proposed Selwyn mine in areas to the west of the mine, but its range is not along the HPAR and it is not potentially affected by the HPAR. The Redstone herd is well to the north and is not potentially affected. There is no evidence that these herds overlap with the study area.</p> <p>RECOMMENDATION</p> <p>Maintain the focus on the Nahanni Caribou Herd for the Key line of inquiry (do not replace this with "northern mountain woodland caribou")</p>	The KLOI includes effects to all caribou. The focus is maintained on the Nahanni Caribou Herd.
22	GNWT - Lands: Paul Mercredi	Page 18, Table 3 - Geographic Scope - Fish and fish habitat	<p>Comment The developer has noted that the geographic scope of assessment related to fish and aquatic habitat should be limited to 100m downstream of the road and 200m downstream of a watercourse crossing. The GNWT notes that the scope should be adjusted as required should sensitive aquatic habitat be present in that area that may be impacted from a spill or malfunction (e.g. culvert wash-out and sediment release) beyond the aforementioned distances.</p> <p>Recommendation GNWT recommends that the scope not be limited to set distances in the event that accidents or malfunctions may affect a wider range. Significance should be assessed as such and mitigation planned accordingly.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>These distances are minimum distances to consider and do not restrict the assessment. SCML agrees that the effects should be considered as far downstream as needed, and this is reflected in the wording for spill risk. Agree with the reviewer's comment that that spill risk should be expanded to include malfunctions.</p> <p>RECOMMENDATION</p> <p>Replace "spill risk" with "accident and malfunction risk" in the "Water and sediment" and the "Fish and aquatic habitat" VC rows.</p>	The issue is addressed in Section 3.3, Geographic Scope and the KLOI for Accidents and Malfunctions. This includes a consideration of the issues and recommendations made by the GNWT and Selwyn.
23	GNWT - Lands: Paul Mercredi	Page 18 - Table 3 - Minimum Geographic	Comment A 100 m distance from the road center line may not be a sufficient distance to evaluate impacts of dust deposition or potential for introduction of invasive species. These effects may depend on the type	<p>RATIONALE FOR RECOMMENDATION</p> <p>The distance of 100 m is a technically a reasonable distance for an effects assessment around disturbed areas (e.g. widened road</p>	The ToR directs the developer to provide a geographic scope for each

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		Scope for Assessment of Valued Components - Vegetation	of vegetation (height/density/species composition) adjacent to the road. Effects of dust deposition should also include quarries, borrow pit and their access roads. Recommendation Change to "Dependent upon the type of vegetation adjacent to the road, borrow pits, quarries and their access roads and the effects pathway under assessment" to leave room for flexibility to assess impacts that may occur beyond 100 m of the centre line of the road.	alignment, borrow pits, temporary construction camps). It is also important that Table 3 summarizes “Minimum Geographic Scope for Assessment of Valued Components” and if effects are detected beyond these thresholds they will be assessed, monitored and adaptively managed. RECOMMENDATION SCML agrees with an effects assessment of 100 m around disturbed areas during all phases of the project.	valued component in the DAR. The issues raised in the GNWT's recommendation are suited for a review of the DAR. The developer's response is appropriate for the DAR.
24	GNWT - Lands: Paul Mercredi	Page 24, Section 4.1.5 - Water Quality and Quantity	Comment Regarding "Water Quality and Quantity", the developer notes that "a general description of the hydrological characteristics for each major drainage and watercourse, as defined and rationalized by the developer." GNWT notes that more detailed information will be required for crossing locations to ensure sufficient crossing structures and associated construction mitigation measures are implemented. GNWT notes that this was also raised by participants at the October 15th, 2015 scoping session in Yellowknife. Recommendation GNWT recommends detailed hydrological information be required for watercourse crossings to ensure adequate crossing structures and construction mitigation measures are implemented.	RATIONALE FOR RECOMMENDATION The HPAR Upgrade Project Description Report (June 2015) summarizes the 2014 program which included the installation of permanent bridges and the installation of culverts across major stream crossings based on Q200 storm flows (see 5.1.4,1 Bridges and 5.14.2 Culverts). These activities received regulatory approval and were completed as planned in 2014. RECOMMENDATION No change recommended based on this comment.	For water course crossing that require alteration the developer is required to provide detailed hydrological information. For existing watercourse crossings that will not be altered, the developer is required to provide sufficient detail to allow an assessment of potential effects that result from the use of them by the HPAR upgrade project. Previously assessed components will not be re-assessed but will be considered through the cumulative effects assessment. The cumulative effects assessment will consider how the effects of the currently proposed development interact with past, present, and reasonably foreseeable human activities and developments.
25	GNWT - Lands: Paul Mercredi	Page 24 - Section 4.1.6 - Wildlife, Wildlife Habitat and Species at Risk	Comment None Recommendation Add "population status and trend" to bullet 1. Add "existing levels of habitat disturbance within the geographic areas of assessment selected for specific wildlife VCs" to bullet 2.	SCML agrees with the reviewer's comment.	The information requested is found in ToR section 5.1.7.

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26	GNWT - Lands: Paul Mercredi	Section 4.1.9; section 7.1.2; section 7.3.	<p>Comment Seismicity as a factor in accidents and malfunctions, as well as a factor in 'effects of the environment on the development' is absent from the ToR, yet the entirety of this project sits in a seismically active area. Seismicity can have great bearing on the environmentally safe operation of this road.</p> <p>Recommendation Add seismicity, and bridge resilience in context of a seismically active area, to: Environmental and Geological Events that May Affect the Project; to Accidents and Malfunctions, and to Effects of the Environment on the Project.</p>	<p>Rationale: The 2014 bridge construction project was an approved project that included the installation of eight new bridges over major streams and improved culvert crossings on major stream crossings. Provision of previous work will be provided in the DAR but the assessment of these improvements should not be included in the scope of the environmental assessment.</p> <p>RECOMMENDATION</p> <ol style="list-style-type: none"> 1. Seismicity should be included in Effects of the Environment on the Project. 2. Bridge resilience should not be included as this was an approved 2014 project that is complete. 	<p>The scope of assessment for this EA will consider effects to the environment that result from the use of existing infrastructure by the proposed HPAR upgrade project. Use of existing infrastructure includes the bridges described above. Previously assessed components will not be re-assessed but will be considered through the cumulative effects assessment. The cumulative effects assessment will consider how the effects of the currently proposed development interact with past, present, and reasonably foreseeable human activities and developments. Selwyn will provide a detailed description of the previously approved and existing facilities and infrastructure that will be used as part of the proposed project. This will include a discussion of how the existing infrastructure will be used in the context of the proposed development, and discussion of the capacity of existing infrastructure to support the proposed development.</p>
27	GNWT - Lands: Paul Mercredi	p. 25, Section 4.2 Human Environment Requirements	<p>Comment The sentence “Through community engagement, each First Nation has identified communities that would be most affected by the Project development” is based on the developer’s summary of its engagement efforts.</p>	<p>SCML has offered the Board its evidence to date regarding which communities would be affected and/or most affected by the Project such that the Board can make its determination in the final Terms of Reference.</p>	<p>The Review Board's ToR directs the developer to include all potentially affected communities. Based</p>

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			Recommendation The final TOR must be reflect MVEIRB's views of which communities would be affected and/or most affected, based on the Board's review of the evidence on the record to date.		on the evidence provided prior to the issuance of the ToR the Review Board understands that potentially affected communities include Tulita, Norman Wells, Nahanni Butte, Ross River, and Watson Lake. This does not limit the Review Board from considering other communities that may be potentially affected. Should evidence be provided during the course of the EA that there are other potentially affected communities the Review Board will consider this evidence.
28	GNWT - Lands: Paul Mercredi	Section 4.2	Comment Human environment information requirements' is a term that is inclusive of both Indigenous and non-Indigenous Canadian residents in the Mackenzie Valley [including the Yukon, in this case]. Recommendation Please modify the language in the opening paragraphs of section 4.2 to reflect the broad nature of the MVEIRB's mandate in relation to the human environment in the Mackenzie Valley, as well as in the Yukon as the case may be, to include both Indigenous and non-Indigenous residents.	RATIONALE FOR RECOMMENDATION SCML agrees with the reviewer's comment. RECOMMENDATION: The introduction to Section 4.2 should be more clear that the description of the Human Environment shall be inclusive of both Indigenous and non-Indigenous (Aboriginal and non-Aboriginal) residents.	The concerns are addressed in ToR Section 5.2, Human Environment Information Requirements.
29	GNWT - Lands: Paul Mercredi	Page 26 - Section 4.2.2 - Harvesting and hunting	Comment This section should acknowledge the value of harvesting to resident and non-resident harvesters, as well as outfitters. Recommendation Change the last bullet to "value of harvesting to individuals, outfitters, and/or communities."	RATIONALE FOR RECOMMENDATION: SCML agrees with the reviewer's comment. Although Section 4.2.2 includes the consideration of recreational and commercial harvesting, the value of harvesting to outfitters should be explicitly acknowledged in addition to individuals and/or communities. RECOMMENDATION: Change the last bullet to "value of harvesting to individuals, outfitters, and/or communities."	The information requested is found in ToR Section 5.2.1.3 Tourism and Recreational Use. The effects assessment of the issue identified is found in ToR Sections 6.2.9, Non Aboriginal Hunting and Fishing, and 6.2.12.
30	GNWT - Lands: Paul Mercredi	Page 31 - Table 6 - Project Description Outline for Construction Phase -	Comment As the project will occur within the range of grizzly bears, bear awareness and safety training for personnel should be a specific consideration during all phases of the project. Recommendation Add "bear awareness and safety training" to the end of the bullet that reads "wildlife attractant control and wildlife encounter minimization."	RECOMMENDATION SCML agrees with the reviewer's comment.	The item is addressed in Table 1, Temporary Construction Camps.

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		Temporary construction camps			
31	GNWT - Lands: Paul Mercredi	Page 32 - Table 7 - Project Description for Operations Phase - Traffic and traffic control	Comment None Recommendation When evaluating "measures to prevent wildlife-vehicle collisions and to reduce impact of traffic on wildlife" the proponent should consider measures for detailed documentation of collisions to provide avenues for adaptive management of traffic to reduce impacts on wildlife."	RECOMMENDATION SCML agrees with the reviewer's comment.	The recommendation is acknowledged and included in table 2, section Traffic and Traffic Control.
32	GNWT - Lands: Paul Mercredi	5.3 Road Design Considerations	Comment Avoidance is the preferred management measure for any heritage resources in the project footprint. Recommendation Avoidance of heritage resources should be listed as a road design consideration in Section 5.3.	RATIONALE FOR RECOMMENDATION The focus of Section 5.3 is on providing relevant engineering design details upon which the effects assessment would be based. SCML notes that the HPAR Upgrade Project largely involves an existing road alignment. While avoidance of heritage resources is an objective, it is not considered a design consideration in the context of Section 5.3 of the Developer's Proposed Terms of Reference. RECOMMENDATION No change recommended based on this comment.	The Review Board acknowledges both parties recommendations and views. The Review Board finds that the recommendation be included in section 3.1.4, Road Design Considerations.
33	GNWT - Lands: Paul Mercredi	Page 35 - Section 5.5 - Management and Monitoring Plans	Comment The proponent should consider opportunities for collaboration or linkages with existing regional monitoring programs and management plans when drafting their wildlife management and monitoring plan. Recommendation Add a sentence that says "In developing its monitoring and management plans, SCML will consider opportunities for collaboration or linkages with existing regional monitoring programs and management plans for VCs considered in the DAR."	SCML agrees with the reviewer's comment. RECOMMENDATION make the suggested addition without the final phrase "for VCs considered in the DAR" (as species are not VCs, this will avoid confusion).	Addressed in ToR section 3.1.5
34	GNWT - Lands: Paul Mercredi	Key Lines of Inquiry (7.1) and Subjects of Note (7.2) – General comment	Comment GNWT notes that several sub-sections are blank (eg. p. 39: 7.1.3.1, 7.1.3.2, 7.1.3.3, 7.1.4.2, p. 40: 7.2.1; p. 46: 7.2.9.1, 7.2.10.2). Recommendation There should be no blank subsections in future versions of the TOR.	These sections are specific topics that are self-explanatory (rather than being blank). SCML has numbered these for the purposes of being able to clearly track where they are addressed in a concordance table, but this could certainly be revised to be just point form. SCML defers to the Board for this formatting decision.	The ToR addresses this issue. There are no blank headings.
35	GNWT - Lands: Paul Mercredi	Section 7.1.2.	Comment Presumably, if a truck with an environmentally harmful load were to overturn near a water crossing, or if something were to occur while crossing the bridge, what impacts would occur in the time between the accident occurring, and cleanup of the accident? What is the best response time for a worst case scenario(s), from detection, to dispatch, to on-scene, to wrap-up? In another example, would all trucks stop if there were an earthquake, until all bridges could be inspected by a qualified engineer? What	RATIONALE FOR RECOMMENDATION The Developer's Proposed Terms of Reference indicates that a risk-based approach will be used for Accidents and Malfunctions. This will include a number of scenarios with probabilities, consequences, root cause and other factors. SCML agrees that a number of worst case scenarios will be considered for the risk assessment but do not feel appropriate that the Terms of Reference should include additional details.	Additional detail on the GNWT's recommendation is included in the KLOI for Accidents and Malfunctions.

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			<p>magnitude of earthquake would precipitate an inspection? What is the return-rate for earthquakes of various magnitude in this area? What is the seismic history of the area?</p> <p>Recommendation The TOR should require the developer to explore a worst, or a number of near-worst case scenarios in order to properly assess the impacts associated with transport of reagents and hazardous material along the HPAR. These include truck accidents near water crossing, or on water crossings, as well as on land.</p> <p>This analysis could include an exploration of effects to land and water from a truck overturning into a waterbody or other area for any substance that would be transported along the HPAR. This necessitates an analysis of Materials Safety Data Sheets, in addition to all other substances that would be transported to the mine.</p> <p>Afterwards, a robust analysis of likelihood can be conducted.</p>	<p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	
36	GNWT - Lands: Paul Mercredi	7.1.4 "Benefits and effects on communities"	<p>Comment Regardless of the size of development, under MVRMA subsection 115(1), the MVEIRB is required to assess all proposed developments for impacts on the environment [be they beneficial or adverse impacts], in a way that considers the legislated requirement for the EA process to "have regard for the protection of the social, cultural and economic well being of residents and communities in the Mackenzie Valley."</p> <p>GNWT notes that while the baseline section of the Terms of Reference [section 4.2.7] lists "rates of crime and substance abuse," no assessment of those rates against the MVEIRB's mandate in the context of this development appear in section 7.</p> <p>Recommendation Add (a) line item(s) concerning socio-economic impact assessment (be they beneficial or adverse impacts) to list in section 7.1.4. GNWT notes that the scope of assessment and geographic scope should align appropriately with the new line item.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Section 7.13 includes the consideration of the potential for adverse effects on overall community wellness, which is sufficiently broad in scope to allow for the consideration of potential changes in rates of crime and substance abuse associated with the HPAR project.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	ToR Section 6.1.4.6, Human Health and Wellbeing, includes a consideration of the GNWT's recommendation.
37	GNWT - Lands: Paul Mercredi	Voice, 7.1.4, "Benefits and effects on communities"	<p>Comment Similar to the above comment regarding presentation of impacts, the Key line of inquiry - 7.1.4 - that concerns 'Benefits and effects on communities' reads as a non-objective metric, where the purpose of the EA could be read as to gauge the developer's success in delivering benefits to communities, rather than assessing the development against the full context of section 115 of the MVRMA.</p> <p>Recommendation Remove the word 'benefit' and instead have that KLOI read a more objective 'Effects to economic, social and community well-being.'</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>SCML agrees with the intent expressed by this comment. It was not SCML's intent to focus this "Key line of inquiry" exclusively on beneficial effects.</p> <p>RECOMMENDATION</p> <p>SCML recommends that this Key line of inquiry be renamed "Beneficial and Adverse effects on Communities".</p>	The KLOI is called section 6.1.4, Benefits and Effects and on Communities.
38	GNWT - Lands: Paul	Page 41 - Section 7.2.2.2 -	Comment Noise emissions from aircraft associated with the project should be included in the assessment of noise emissions from vehicles	<p>RATIONALE FOR RECOMMENDATION</p> <p>Aircraft support is not required for this project, with the exception of</p>	The ToR requires an assessment of all noise

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	Mercredi	Noise and vibration	Recommendation Change bullet 1 to read "noise emissions from vehicles (including aircraft), equipment, and stationary sources such as crushers."	emergencies. It is therefore unclear why the scope of the environmental assessment should include aircraft. RECOMMENDATION SCML does not agree with this Comment.	sources. If there are no aircraft associated with the proposed HPAR project then an effects assessment of this source of noise is not required. ToR Section 6.2.2, Noise, Vibration, and Light provides direction on this subject.
39	GNWT - Lands: Paul Mercredi	Page 42, Section 7.2.3.2 - Water and Sediment Quality	Comment Acid Rock drainage – the HPAR upgrade will be an 80-km linear development requiring much crushed rock, with an as yet unknown potential for acid-rock-drainage along the entire length. The Developer’s Proposed Terms of Reference mentions acid rock drainage and metal leaching, but not in a context of potential impacts to water quality. Recommendation GNWT recommends adding a bullet that reads: "potential for acid rock drainage and metal leaching in crushed rock used for road construction, and resultant changes in water quality."	RATIONALE FOR RECOMMENDATION The assessment of ARD and Metal Leaching is in Subject of Note-Section 7.2.1.4, Granular Materials. SCML feels this is covered adequately in this section. RECOMMENDATION No change recommended based on this comment.	ToR Section 6.2.1.4 includes a consideration of the GNWT's recommendation.
40	GNWT - Lands: Paul Mercredi	Page 42 - Section 7.2.4 - Vegetation	Comment The location of stations to clean equipment prior to travelling on the HPAR will be an important determinant of the risk of introducing invasive species. If the closest washing station is in Fort Nelson or Watson Lake, there may still be potential for invasives to be picked up between these locations and the HPAR. Recommendation Include in Section 7.2.4 a requirement to discuss the potential for introduction of invasive species and potential mitigation measures should include the location of stations that will be used to properly wash/clean equipment.	RATIONALE FOR RECOMMENDATION This recommendation assumes that the outcome of the DAR will support the cleaning of trucks as the best alternative to deal with invasive plant species. There will be a number of alternatives assessed. It is important to remember that this is an existing road with no requirement for vehicle washing for trucks using the current road and connected public roads. RECOMMENDATION No change is recommended based on this comment.	The GNWT's recommendation is noted however, it is not applicable to the ToR. The issue identified can be explored during the EA.
41	GNWT - Lands: Paul Mercredi	Page 43, Follow-Up and Monitoring	Comment The developer noted the importance of having a follow-up program in order to verify the accuracy of the environmental assessment of a project and determine the effectiveness of any measures taken to mitigate the adverse environmental effects of the project, but how this will be done is not identified as an item to be described. Recommendation GNWT recommends that the TOR require a description of how follow-up monitoring will assess project impacts and measure the effectiveness of any mitigation measures.	RATIONALE FOR RECOMMENDATION Section 7 requires SCML to “provide a description of the purpose of each program, responsibilities for data collection, analysis and dissemination, and how the results will be used in an adaptive management process”. The intent of this is to describe how monitoring will be done in order to assess project impacts and measure the effectiveness of mitigation measures. RECOMMENDATION No change recommended based on this comment.	The recommendation is dealt with in ToR Section in Section 9, Follow-up and Monitoring.
42	GNWT - Lands: Paul Mercredi	Page 44 - Section 7.2.6.2 - Direct and indirect	Comment Assessment of direct and indirect alteration of habitat should include borrow sources, quarries, associated access roads and temporary camps. Recommendation Change bullet 2 to read: "direct and indirect alteration	SCML agrees with this comment.	ToR Section 6.2.6.2, Direct and Indirect Alteration or Disturbance of Habitat, includes this information.

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		alteration of habitat, including disturbance	of habitat, including direct road footprint, borrow sources, quarries, temporary access roads and temporary camps."		
43	GNWT - Lands: Paul Mercredi	Page 44 - Section 7.2.6.2 - Direct and indirect alteration of habitat, including disturbance	Comment Section 7.2.4 will include an assessment of effects of road emissions including dust and deposition of metals. This should be carried forward to Section 7.2.6 to include an assessment of the potential for increased contaminant levels in wildlife. Recommendation Add a bullet to section 7.2.6.2 that reads: "effects of deposition of metals on contaminant levels in wildlife."	RATIONALE FOR RECOMMENDATION The potential for emissions to affect contaminant levels in wildlife should at a minimum be addressed based on research and monitoring of pathways and levels of contaminants in wildlife in comparable ecological conditions. RECOMMENDATION Add to Section 7.2.6.2 "-potential for road emissions to affect contaminant levels in wildlife"	ToR Sections 6.2.6.2, Direct and Indirect Alteration or Disturbance of Habitat, and 6.2.6.4, Effects to Wildlife Populations, include this information.
44	GNWT - Lands: Paul Mercredi	Page 44 - Section 7.2.7 Species at Risk	Comment None Recommendation The first sentence should refer to s. 7.2.5 and 7.2.6, not 6.6 and 6.7.	Correct (an error that occurred during revision of the Developer's Proposed Terms of Reference).	This ToR corrected this issue.
45	GNWT - Lands: Paul Mercredi	7.11 Heritage Resources	Comment The first bullet should also include burial sites. In the second bullet, it is unclear what "archiving" sites means. Recommendation Add burial sites to the first bullet; clarify terminology in the second bullet.	RATIONALE FOR RECOMMENDATION SCML agrees with this comment and provides the following clarification regarding terminology. SCML notes that "the management and archiving of sites" referred to in Section 7.11 is intended to describe the procedures to be taken to document and/or preserve any artifacts or human remains in accordance with legislative or First Nation requirements. RECOMMENDATION The first bullet should include burial sites. No further changes are recommended based on this comment.	This recommendation is addressed in ToR Section 6.2.11, Heritage Resources.
46	GNWT - Lands: Paul Mercredi	7.13 Potentially Affected Communities	Comment Residents need to know what skills are required for each opportunity, where training is offered, what in-house training or training dollars will be provided by the proponent and where training can be accessed. Recommendation Recommendation to add what skills are required for each opportunity, where training is offered, what in-house training or training dollars will be provided by the proponent and where training can be accessed under the maximizing potential benefits section of 7.13.	RATIONALE FOR RECOMMENDATION As noted in Section 7.13, SCML's will describe "any proposed training, skills development or procurement policies and programs" that are aimed at maximizing potential benefits. The level of detail requested by the reviewer is beyond what is necessary for the purposes of an EA and the issues raised are best addressed through Cooperation Agreements between SCML and potentially affected communities and any further SCML-Community Agreements to be developed as part of the Project. These are the mechanisms by which the reviewer's issues are being addressed by SCML. SCML notes that it has formal Cooperation Agreements with both Sahtu and Dehcho communities that cover the life of the Project. These communities have been involved in the HPAR project in every step along the way and will continue to be involved.	The TOR has been updated so that required skills and appropriate training opportunities are identified.

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				RECOMMENDATION No change recommended based on this comment.	
47	GNWT - Lands: Paul Mercredi	Appendix A	Comment The GNWT Department of Lands has published Northern Land Use Guidelines to assist proponents/developers and operators when planning, assessing and undertaking various land use activities on Territorial and Commissioner's Land throughout the NWT. These guidelines are available at: http://www.lands.gov.nt.ca/en/northern-land-use-guidelines . Recommendation To Appendix A, under the heading 'Government of the NWT,' please add: Northern Land Use Guidelines: Camp and Support Facilities, Northern Land Use Guidelines: Pits and Quarries, and Northern Land Use Guidelines: Access: Roads and Trails.	SCML agrees with the reviewer's comment.	The requested information has been added.
48	GNWT - Lands: Paul Mercredi	Appendix A	Comment The Prince of Wales Northern Heritage Centre has published Guidelines for Developers for the Protection of Archaeological Sites in the Northwest Territories. Recommendation Please add Guidelines for Developers for the Protection of Archaeological Sites in the Northwest Territories to Appendix A, under the heading 'Government of the NWT.'	SCML agrees with the reviewer's comment.	The requested information has been added.
49	GNWT - Lands: Paul Mercredi	Appendix A	Comment The GNWT has programs and services relevant to the matters the developer proposes to assess. Recommendation The GNWT has a variety of socio-economic programs and services as part of a commitment to support community wellness, and is prepared to discuss relevant programs and services as the EA progresses. The following online Service Directory outlines some of these programs: http://services.exec.gov.nt.ca/service-directory . Please add this directory to Appendix A, under the heading 'Government of the NWT.'	SCML agrees with the reviewer's comment.	Not relevant to the ToR.
1	Gov of Canada: Sarah Robertson	GoC - NPMO - Cover Letter	Comment Cover letter for Government of Canada comments on Developer's Proposed Terms of Reference for the Howard's Pass Access Road Upgrade Project. Recommendation See attached for letter and federal contact sheet.	No response is needed to this cover letter as comments are entered into the table. The letter also provides a contact list which will be useful during preparation of the DAR.	No response needed
2	Gov of Canada: Sarah Robertson	GoC - DFO #1 Section 3.2 Scope of Assessment, Table 2: Valued Components, Ecosystem Components- Fish and	Comment In order to understand the potential impacts to fish and fish habitat resulting from the proposed road upgrades it is important to consider all fish species which are present in the watercourses associated with the crossings. Bull Trout are known to occur in this area and should be included in the assessment if they are known to occur at the crossing locations. Recommendation DFO recommends that the assessment include all fish species which are known to occur in the watercourses associated with the crossings. Nursery and overwintering habitat quality should also be	RATIONALE FOR RECOMMENDATION Bull trout Based on work undertaken by SCML and on literature review of recent papers on bull trout distribution, it is highly unlikely that bull trout occur in the Little Nahanni River or upper Flat River watersheds. Fish surveys were conducted by Parks, DFO and others, 2004-2007 with a primary aim of documentation of bull trout distribution in the South Nahanni watershed. Sites in the Little Nahanni, Steel Creek and Flat Lakes were included. Habitat favourable to bull trout was targeted. The	Table 2 has been removed from the ToR, however all fish species have been included for consideration in Sections 5 and 6 of the ToR. With respect to Bull Trout, specifically, as they are listed as a species of special concern under COSEWIC, the

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		Aquatic Habitat - Subjects to Consider	assessed to capture all life stages of fish present.	<p>study included literature review and use of local knowledge. Extensive surveys over four years did not find any bull trout upstream of Virginia Falls. The authors consider that the few previous unverified records upstream of Virginia Falls were likely misidentified lake trout. (Babaluk, J. A., Sawatzky, C. D., Watkinson, D. A., Tate, D. P., Mochnacz, N. J., & Reist, J. D. (2015). Distributions of Fish Species within the South Nahanni River Watershed, Northwest Territories. Winnipeg: Canadian Manuscript Report of Fisheries and Aquatic Sciences 3064. Fisheries and Oceans Canada.) None of the reports of past aquatic inventories in the area indicated bull trout as present. They were not detected in the fish and fish habitat survey conducted in 2014 by Triton Environmental Services for SCML (HPAR Upgrade Project Description Report June 2015 section 4.2.6). It is highly improbable that multiple sampling methods across all sample sites would not have detected this species had it been present.</p> <p>Selection of VC fish species Arctic grayling and lake trout were selected for special attention (subjects to consider) as they are considered the species most likely to be affected by the development, based on their presence in or near the streams crossing the road, and the lakes and river near the road, and on their sensitivity, especially during spawning and rearing, to water quality degradation and habitat disturbance. Nonetheless, the proposed VC is 'Fish and aquatic habitat'. This is inclusive of all fish species present in at the stream crossings and in the downstream zone of potential influence, and is inclusive of overwintering and rearing habitat.</p> <p>RECOMMENDATION</p> <ol style="list-style-type: none"> 1. Do not add bull trout as a Subject to consider for the Fish and aquatic habitat VC (Table 2). 2. For clarity, revise the Subjects to consider for the VC Fish and aquatic habitat (Table 2) to: "year-round effects on fish species present with particular consideration of Arctic grayling and lake trout; spawning and rearing habitat quality; lake and wetland habitat and connectivity." 	Board requires SCML to consider them in their description of baseline environment and effects assessment.
3	Gov of Canada: Sarah Robertson	GoC - DFO #2 Section 4.0 Description of the Environment 4.1.5 Water Quality and	Comment In order to ensure that there are no negative impacts to fish passage as a result of the culvert extensions it is important to have an understanding of the existing conditions at the watercrossings which were installed during the previous road upgrade. It is important to know that all the culverts that have been installed are appropriately sized and properly installed and maintained to ensure that there are not barriers to fish passage during both high and low flow periods.	<p>RATIONALE FOR RECOMMENDATION</p> <p>In this comment, the reviewer asks that a requirement for an assessment of existing conditions at specific stream crossings be added as a Subject to consider for the description of background water quality and quantity. The physical conditions at the watercourse crossings have been inventoried, as was the hydrology of the sub-basins. Culvert design and installation procedures, along with 200-year flood levels and</p>	Baseline information requirements for water quality and quantity are described in ToR section 5.1.6. Baseline information requirements for fish and aquatic habitat are described

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		Quantity	Recommendation DFO recommends that an assessment of the existing conditions at the crossings which are proposed to be upgraded be included to ensure that they are sized appropriately and installed properly to ensure fish passage during both high and low flow periods.	descriptions of stream crossing sites, presented in the HPAR Upgrade Project Description Report (June 2015), will be covered in discussion of stream crossing designs and mitigation measures. RECOMMENDATION No change recommended based on this comment.	in ToR Section 5.1.8. If, upon reviewing the DAR, DFO requires more information, it can be requested during the information request phase of the EA.
4	Gov of Canada: Sarah Robertson	GoC - DFO #3 Section 4.0 Description of the Environment 4.1.7 Fish and Aquatic Habitat , bullet 1	Comment In order to ensure that there are no negative impacts to fish and fish habitat it is important to assess both fish and fish habitat present at each water crossing and in close proximity to project. Fish should be added to this assessment. Recommendation DFO recommends that fish be added to bullet 1 so that this bullet reads- Fish and fish habitat present at each water crossing and in close proximity to project infrastructure.	Agree with reviewer comment.	See change made to ToR Section 5.1.8 (2)
5	Gov of Canada: Sarah Robertson	GoC - DFO #4 Section 5.0 Development Description 5.2 Development components and Activities Table 6 Project Description Outline for Construction Phase	Comment Project Component- Road Upgrade and Borrow Sources. It is unclear whether blasting will be required in or near fish habitat in order to carry out the proposed road upgrades or the development of borrow sources. If required it should be included in the assessment as well as the mitigation measures and best management practices which will be implemented to ensure there are no negative impacts to fish and fish habitat. Recommendation DFO recommends that if blasting in or near fish habitat will be required that it is included in the assessment as well as the identification of mitigation and best management practices to ensure there are no negative impacts to fish and fish habitat.	RATIONALE FOR RECOMMENDATION Blasting is included in Table 6 in the section on borrow pits but was omitted from the section on the road upgrade. It is not necessary to include a requirement for mitigation and best management practices specifically for blasting, as this applies to all items in these tables, and as this table is a list of subjects to consider for the project description. Also, the topic of blasting should not be limited to its relationship to fish habitat. RECOMMENDATION Add blasting to Table 6 under the section "Road upgrade".	Assessment of the effects of blasting is required in ToR section 6.2.2.2 (1)c
6	Gov of Canada: Sarah Robertson	GoC - DFO #5 Section 5.0 Development Description 5.2 Development components and Activities Table 6 Project Description Outline for Construction Phase	Comment Project Component- Watercourse Crossings. It is unclear whether there will be requirement for the realignment of watercourses associated with the proposed culvert extensions and the relocation of culverts to match the road realignment or reconfiguration. If channel realignments are not designed and constructed properly there is the potential for negative impacts to fish and fish habitat. Recommendation DFO recommends that if channel realignments are required at any of the watercourse crossings that they be identified in the assessment and measures to avoid and mitigate negative impacts to fish and fish habitat be included in the assessment.	RATIONALE FOR RECOMMENDATION There will be no realignments of streams. RECOMMENDATION No change recommended based on this comment.	Any changes to surface drainage patterns must be assessed in ToR Section 6.2.3.1(1). Effects of channel realignments to fish and fish habitat must be described as per ToR 6.2.5.
7	Gov of Canada:	GoC - EC #1 Section 3:	Comment The Proponent should describe how they will manage the vegetation in the right-of-way during the operations phase of the	SCML agrees with the reviewer's comment.	Addressed in ToR Section 6.2.4.1(3)

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	Sarah Robertson	Scope Considerations Table 1: Summary of the Scope of Development by Project Phase Table 7: Project Description for Operations Phase	project, specifically as a component of road maintenance. Recommendation The management of vegetation in the right-of-way should be included in the scope and description of development for the Operations Phase.		
8	Gov of Canada: Sarah Robertson	GoC - EC #2 Table 2: Valued Components, Species at Risk	Comment Subsection 79 (2) of the <i>Species At Risk Act</i> (SARA), states that during an assessment of a project, the adverse effects of the project on listed wildlife species and their critical habitat must be identified, that measures are taken to avoid or lessen those effects, and that the effects need to be monitored. This subsection applies to all species listed on Schedule 1 of SARA. However, as a matter of best practice, Environment Canada (EC) suggests that similar consideration be given to species on other Schedules of SARA and under consideration for listing on SARA, including those designated as “at risk” by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Recommendation It is recommended that all species listed on Schedule 1 of SARA and species designated as at risk by COSEWIC be considered under the Species at Risk valued component.	RATIONALE FOR RECOMMENDATION While SCML recommends a focus on species on SARA Schedule 1, the point is taken that other species under assessment for listing should also be considered. The current wording “bats and other mammals; bird species at risk” was intended to be inclusive, not to restrict the assessment. There are no identified at-risk species in the area that are not birds or mammals. The HPAR Upgrade Project Description Report (June 2015) has a table (4.2-13) listing special status species, including COSEWIC status and NWT GS Rank, and a discussion of their known distribution in relation to the project. RECOMMENDATION For clarity, the wording could be revised to “species assigned a special conservation status by COSEWIC or SARA or assigned a rank other than secure through the NWT General Status Ranks and confirmed to be present in the project vicinity.”	Change made to ToR Section 6.2.7
9	Gov of Canada: Sarah Robertson	GoC - EC #3 Table 2: Valued Components, Wildlife and wildlife habitat	Comment The <i>Migratory Birds Convention Act</i> provides for the protection of migratory birds through the Migratory Birds Regulations and protects the eggs and the nests of migratory birds. Although protection is afforded to all migratory birds, EC agrees that songbirds (or "breeding birds" as described by the Proponent) and waterfowl will likely require particular attention for this project assessment. Recommendation There should be special consideration for songbirds and waterfowl within this project assessment.	RATIONALE FOR RECOMMENDATION This recommendation is in line with the Developer’s Proposed Terms of Reference, with the exception of wording. RECOMMENDATION Replace “breeding birds” with “song birds” in Table 2, Wildlife and wildlife habitat VC.	Addressed in ToR 6.2.6
10	Gov of Canada: Sarah Robertson	GoC - EC #4 Section 4: Description of the	Comment Bullets #1 and #5 should be aligned so the same level of details is provided in the description of all species included within the wildlife and wildlife habitat subject of note. This could be addressed by keeping bullet #1, but defining wildlife to be inclusive of migratory birds	SCML agrees with the reviewer’s comment.	Comments incorporated into ToR Section 5.1.7

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		environment, 4.1.6 Wildlife, Wildlife Habitat and Species at Risk	and species at risk, and changing habitat requirements to "habitat use and requirements". Recommendation Bullets #1 and #5 should be aligned by defining wildlife to be inclusive of migratory birds and species at risk and adding "habitat use" to the description.		
11	Gov of Canada: Sarah Robertson	GoC - EC #5 Section 5: Development Description, 5.2 Development Components and Activities	Comment EC notes specific mention of the Wildlife and Wildlife Habitat Protection Plan (WWHPP) supporting the project description for the operations and closure phases following Tables 7 and 8. However, it was not mentioned in the section on the construction phase following Table 6. Recommendation The Terms of Reference should clarify that the construction phase should be included in the WWHPP.	SCML agrees with the reviewer's comment.	See ToR Section 3.1.5
12	Gov of Canada: Sarah Robertson	GoC - EC #6 Section 7: Assessment of Environmental Impacts and Cumulative Effects, 7.2.7 Species at Risk - Impact assessment	Comment Subsection 79 (2) of SARA, states that during an assessment of a project, the adverse effects of the project on listed wildlife species and their critical habitat must be identified, that measures are taken to avoid or lessen those effects, and that the effects need to be monitored. This subsection applies to all species listed on Schedule 1 of SARA. However, as a matter of best practice, EC suggests that similar consideration be given to species on other Schedules of SARA and under consideration for listing on SARA, including those designated as "at risk" by COSEWIC. Recommendation A description of the monitoring proposed to determine the effectiveness of mitigation measures should be included. Clearly state how proposed mitigation and monitoring measures are consistent with applicable recovery strategies, action/management plans, COSEWIC Status Reports or any other literature available.	RATIONALE FOR RECOMMENDATION This is a good addition to the list and useful guidance for preparation of the DAR. However, for the Terms of Reference, we recommend adding a shorter form. RECOMMENDATION Add to bullets in 7.2.7: "-Monitoring proposed to determine effectiveness of mitigation"	See Section 4(11c)
13	Gov of Canada: Sarah Robertson	GoC - EC #7 Section 10: Follow-up and Monitoring	Comment The current draft Terms of Reference recommends discussing monitoring with the Government of the Northwest Territories. EC has monitoring expertise related to migratory birds and has established several regional monitoring programs in the North. Recommendation Consider discussing common data collection and monitoring protocols regarding local and regional monitoring programs for migratory birds with EC (Canadian Wildlife Service), to facilitate the project impact analysis.	This information will be useful during the preparation of the DAR, but does not require a change to the Terms of Reference. RECOMMENDATION No change recommended based on this comment.	See updated text in Section 9
14	Gov of Canada: Sarah Robertson	GoC - EC #8 Appendix A: Guidelines for monitoring and management plans	Comment For information on responsibilities regarding the consideration of wildlife species at risk in the environmental assessment process, EC encourages the Proponent to consult the following documents available on EC's website: Addressing Species at Risk Act Considerations Under the <i>Canadian Environmental Assessment Act</i> for Species Under the Responsibility of the Minister responsible for Environment Canada and Parks Canada	SCML agrees with the reviewer's comment.	The developer is responsible for using all relevant documents and information sources in the creation of its Developer's Assessment Report. No change required to the ToR.

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			<p>(https://www.registrelep-sararegistry.gc.ca/default.asp?lang=En&n=28557671-1);</p> <p>The Species at Risk Act Environmental Assessment Checklists for Species Under the Responsibility of the Minister Responsible for Environment Canada and Parks Canada</p> <p>(http://www.sararegistry.gc.ca/virtual_sara/files/policies/SARA_EA_Checklist_0811_eng.pdf);</p> <p>While these SARA documents make specific reference to the <i>Canadian Environmental Assessment Act</i> and are currently being updated, much of their content may be relevant to other federal environmental assessment regimes in Canada's North such as the Mackenzie Valley Resource Management Act (MVRMA).</p> <p>Recommendation Add reference to these documents to Appendix A and use them to assess potential impacts from the development and proposing mitigation and monitoring programs:</p> <p>Addressing <i>Species at Risk Act</i> Considerations Under the Canadian Environmental Assessment Act for Species Under the Responsibility of the Minister responsible for Environment Canada and Parks Canada</p> <p>(https://www.registrelep-sararegistry.gc.ca/default.asp?lang=En&n=28557671-1);</p> <p>The <i>Species at Risk Act</i> Environmental Assessment Checklists for Species Under the Responsibility of the Minister Responsible for Environment Canada and Parks Canada</p> <p>(http://www.sararegistry.gc.ca/virtual_sara/files/policies/SARA_EA_Checklist_0811_eng.pdf).</p>		
15	Gov of Canada: Sarah Robertson	GoC - EC #9 Document Management	<p>Comment The revised Developer's Proposed Terms of Reference (Developer's Proposed Terms of Reference) is lacking a version tracking table, which would assist with document management. As well, the revised Developer's Proposed Terms of Reference is dated September 16, 2015, which is the same document date as the original version. The electronic document properties indicate the actual document date is October 29, 2015.</p> <p>Recommendation The following changes should be made to the revised Developer's Proposed Terms of Reference: - Add a version tracking table; and - Correct the document date.</p>	Versions of the Terms of Reference are tracked by date of submission by the developer or the date of public release by the Board.	Parties have reviewed the Developer's proposed Terms of Reference. The Review Board will now issue a draft Terms of Reference that incorporates comments from the public and the developer. This draft Terms of Reference will be subject to public review and will then inform the Final Terms of Reference.
16	Gov of Canada: Sarah Robertson	GoC - EC #10 Section 3: Scope Considerations,	Comment Table 2 (Valued Components) lists "subjects to consider" for each identified valued component. However, the subjects to consider listed for the valued component 'Water and Sediment Quality' do not encompass all potential water quality and sediment quality issues.	<p>RATIONALE FOR RECOMMENDATION</p> <p>Sediment quantity</p> <p>SCML understands the concern about sediment quantity to be based on a potential for alteration of stream and lake sediment characteristics</p>	Table 2, as presented in the DPToR was removed from the draft ToR. Effects to sediment quantity must be

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		3.2 Scope of Assessment Table 2: Valued Components, Water and Sediment Quality	Recommendation Water and Sediment Quality' List all potential water quality and sediment quality/quantity issues in the 'Subjects to Consider' column. The following additions (bold text) and deletion (square brackets) to the existing wording (<i>italicized text</i>) in Table 2 (Valued Components) are recommended: <i>Water quality</i> and sediment quality/quantity of <i>major streams and Little Nahanni River</i> ; <i>risk of</i> [REMOVE <i>deleterious</i>]adverse effects from potential discharges, <i>spills</i> , releases, runoff, seepage, erosion, sedimentation, and ML/ARD on water quality and on stream sediment.	(such as the amount and distribution of fine sediment) and impacts on benthic habitat, due to erosion and sedimentation. This is best assessed under the VC “fish and aquatic habitat”. Requirements for information on and control of erosion and sedimentation are throughout the Terms of Reference, for all project phases. Adding a separate consideration of “sediment quantity” is unnecessary. Discharges There are no “potential discharges” in this project for any of the project phases as outlined in the HPAR Upgrade Project Description Report (June 2015). RECOMMENDATION 1. As recommended, add effects from “releases, runoff, seepage, erosion, sedimentation and ML/ARD on water quality and on stream sediment.” 2. Replace “deleterious” with “adverse”. 3. Do not add “sediment quantity”. 4. Do not add “potential discharges” (beyond the scope of the proposed project).	described as outlined in ToR section 6.2.1.2. Effects to sediment quality must be described as outlined in ToR section 6.2.3.2. Any overlap between sections may be described and identified in the concordance table provided with the DAR for ease of review.
17	Gov of Canada: Sarah Robertson	GoC - EC #11 Section 3.3: Geographic Scope Table 3: Minimum Geographic Scope for Assessment of Valued Components, Fish and Aquatic Habitat	Comment With respect to the valued component 'Fish and Aquatic Habitat', it is noted that the geographic scope identified in the 'Operations' column and in the 'During and Post-Closure' column of Table 3 (Minimum Geographic Scope for Assessment of Valued Components) includes road crossings, rather than 'road; stream crossings'. This appears to be a typing error. Recommendation With respect to the valued component 'Fish and Aquatic Habitat', ensure that the geographic scope for each column of Table 3 (Minimum Geographic Scope for Assessment of Valued Components) agrees with the geographic scope identified for the valued component 'Water and Sediment Quality' in the same table. This would correct the identified typing error.	Agree that this was an error and the reviewer has provided the correction.	Table 3 from the DPToR was removed from the draft ToR.
18	Gov of Canada: Sarah Robertson	GoC - EC #12 Section 4: Description of the Environment, 4.1.5 Water Quality and Quantity	Comment Section 4.1.5, Water Quality and Quantity, requires the Proponent to provide a description of background and current water quality and quantity. However, sediment quality and quantity is not explicitly mentioned. As well, inclusion of historic baseline data is not specifically mentioned. Recommendation Include the following additional information requirements in Section 4.1.5, Water Quality and Quantity: All available baseline data, including historic data (water quality/quantity and sediment quantity/quality); and Sediment quality and quantity (baseline and current).	RATIONALE FOR RECOMMENDATION Sediment quantity SCML understands the concern about sediment quantity to be based on a potential for alteration of stream and lake sediment characteristics (such as the amount and distribution of fine sediment) and impacts on benthic habitat, due to erosion and sedimentation. This is best assessed under the VC “fish and aquatic habitat”. Requirements for information on and control of erosion and sedimentation are throughout the Terms of Reference, for all project phases. Adding a separate consideration of “sediment quantity” is unnecessary.	Table 2, as presented in the DPToR was removed from the draft ToR. Effects to sediment quantity must be described as outlined in ToR section 6.2.1.2. Effects to sediment quality must be described as outlined in ToR section 6.2.3.2. Any overlap between sections may be

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				<p>RECOMMENDATION</p> <p>1. SCML recommends not adding sediment quantity.</p> <p>2. SCML agrees that historic and current baseline information for water quality/quantity and sediment quality should be included in Section 4.1.5 of the Terms of Reference.</p>	described and identified in the concordance table provided with the DAR for ease of review.
19	Gov of Canada: Sarah Robertson	GoC - EC #13 Section 5: Development Description Table 6: Project Description Outline for Construction Phase	<p>Comment With respect to Table 6 (Project Description Outline for Construction Phase), it is important to consider measures to prevent impacts on water quality and sediment quality/quantity in relation to relevant project components.</p> <p>Recommendation Add the following additional items (bold text) to the existing wording (italicized text) in the 'Subjects to Consider' column of Table 6: Project component: Road upgrade measures for protection of water quality (including the management of sediment quality and quantity) during construction Project component: Watercourse crossings <i>measures for protection of fish and fish habitat</i> and water quality (including the management of sediment quality and quantity) <i>during construction, including measures for erosion and sediment control.</i> Project component: Borrow sources measures for mitigation of water quality impacts associated with the use and management of explosives Project component: Temporary construction camps measures for mitigation of water quality impacts associated with waste management To assist in the readability of the Developer's Assessment Report (DAR), Table 6 should include references to relevant plans and documents.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Sediment quantity</p> <p>SCML understands the concern about sediment quantity to be based on a potential for alteration of stream and lake sediment characteristics (such as the amount and distribution of fine sediment) and impacts on benthic habitat, due to erosion and sedimentation. This is best assessed under the VC “fish and aquatic habitat”. Requirements for information on and control of erosion and sedimentation are throughout the Terms of Reference, for all project phases. Adding a separate consideration of “sediment quantity” is unnecessary.</p> <p>References</p> <p>References will be added in the DAR as appropriate. The note below Table 6 states: “The project description for the construction phase will be supported by Standard Operating Procedures and management plans in final or draft format, as appropriate, including SCML Standard Operating Procedures for fuel handling, working in and around water, work site cleanliness, and plans for waste management, erosion and sediment control, avalanche management, and quarry operations.” References will be added as the DAR is developed and as these plans are developed. SCML considers it preliminary to reference plans and supporting documents at this stage, and not consistent with a Terms of Reference.</p> <p>RECOMMENDATION</p> <p>1. Make the suggested additions related to water and sediment quality but do not add sediment quantity.</p> <p>2. Make the suggested additions in relation to borrow sources and temporary construction camps.</p> <p>3. Do not add references to Table 6.</p>	Effects to sediment quantity must be assessed as per ToR section 6.2.1.2. Effects as a result of changes in sediment quantity must be assessed as per ToR section 6.2.3.2. Effects due to changes in water and sediment quality must be assessed as per ToR section 6.2.3.2. All relevant mitigation measures to prevent significant adverse effects must be described as per ToR sections 4.11 and 3.1.5.
20	Gov of Canada: Sarah Robertson	GoC - EC #14 Section 5: Development Description Table 7: Project Description for	<p>Comment With respect to Table 7, it is important to consider measures to prevent impacts on water quality and sediment quality/quantity in relation to relevant project components.</p> <p>Recommendation Add following additional items (bold text) to the existing wording (italicized text) in the 'Subjects to Consider' column of Table 7:</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>References will be added in the DAR as appropriate. The note below Table 7 states: “The project description for the operations phase will be supported by management plans in final or draft format, as appropriate, including plans for road operations, wildlife and wildlife habitat protection, emergency response, spill response, waste</p>	Hauling of lead and zinc concentrates is now to be assessed as a cumulative effect. All measures to prevent significant adverse effects to water quality must

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		Operations Phase	Project component: Hauling zinc and lead concentrate measures for protection of water quality during operations Project component: Road maintenance measures for protection of water quality during operations, including in relation to the use and management of substances or materials (e.g., road salts) To assist in the readability of the DAR, it is recommended that Table 7 include references to relevant plans and documents.	management, erosion and sediment control, and avalanche management.” References will be added as the DAR is developed and as these plans are developed. SCML considers it preliminary to reference plans and supporting documents at this stage, and not consistent with a Terms of Reference. RECOMMENDATION 1. Make the additions as noted by the reviewer. 2. Do not add references to Table 7.	be described as per ToR 4.5, and 6.2.3.2. The Developer is required to provide management plans in final or draft format in its DAR submission package, as per ToR requirement 3.1.5.
21	Gov of Canada: Sarah Robertson	GoC - EC #15 Section 5: Development Description, 5.3 Road Design Considerations	Comment Section 5.3, Road Design Considerations, provides a list of subjects that will be considered. In addition to those listed, it will also be important to describe drainage pathways leading to waterbodies. Recommendation Section 5.3, Road Design Considerations, should include the following additional road design consideration: drainage pathways leading to waterbodies.	RECOMMENDATION SCML agrees with this addition.	See ToR Section 3.1.4
22	Gov of Canada: Sarah Robertson	GoC - EC #16 Section 6: Impact Assessment Steps, 6.1 Impact Assessment Methodology	Comment Mitigation measures are important during all project phases, including during closure. However, the description of mitigation measures and residual effects in Section 6.1 (Impact Assessment Methodology) did not include the closure phase. Recommendation The closure phase should be included in the description of mitigation measures and residual effects. The following addition (bold text) to the existing wording (italicized text) in Section 6.1 (Impact Assessment Methodology) is recommended: <i>Mitigation measures and residual effects: The developer will describe all mitigation measures that will be put into effect during project design, construction, operation, and closure to avoid or reduce the severity of potential adverse environmental effects.</i>	RATIONALE FOR RECOMMENDATION SCML agrees with the reviewer’s comment and intends to consider mitigation in all project phases, including the closure phase, to avoid or reduce the severity of potential adverse environmental effects. RECOMMENDATION The Terms of Reference should be modified to adopt the wording suggested by the reviewer.	See ToR Section 4(5).
23	Gov of Canada: Sarah Robertson	GoC - EC #17 Section 7: Assessment of Environmental Impacts and Cumulative Effects, 7.2.3.2 Water and Sediment Quality	Comment Portions of Section 7.2.3.2 (Water and Sediment Quality) should require consideration of changes to sediment quality and quantity. In addition, there is no reference to ML/ARD potential, discharge, spills, releases, runoff and seepage of wastewater effluent, solid waste leachate, hazardous wastes, fuels, explosives, zinc and lead concentrates, road maintenance substances and materials (e.g., road salts), contaminants and chemical additives, which are also considerations with respect to water quality. Recommendation Sediment quality and quantity, and several water quality considerations should be included in Section 7.2.3.2. The following additions (bold text) to the existing wording (italicized text) in Section 7.2.3.2 (Water and Sediment Quality) are recommended: <i>changes to water quality</i> and to sediment quality and quantity <i>at water crossings...</i>	RATIONALE FOR RECOMMENDATION Sediment quantity SCML understands the concern about sediment quantity to be based on a potential for alteration of stream and lake sediment characteristics (such as the amount and distribution of fine sediment) and impacts on benthic habitat, due to erosion and sedimentation. This is best assessed under the VC “fish and aquatic habitat”. Requirements for information on and control of erosion and sedimentation are throughout the Terms of Reference, for all project phases. Adding a separate consideration of “sediment quantity” is unnecessary. Effluent, leachate and hazardous wastes There is no effluent or solid waste leachate in this project, and no hazardous wastes. RECOMMENDATION	Effects to sediment quantity must be assessed as per ToR section 6.2.1.2. Effects as a result of changes in sediment quantity must be assessed as per ToR section 6.2.3.2. effects due to changes in water and sediment quality must be assessed as per ToR section 6.2.3.2. With respect to the items to consider in section 6.2.3.2 (and ECs suggested list), the list of potential effects pathways

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			<p><i>changes to water quality</i> and to sediment quality and quantity <i>due to thaw slumps...</i></p> <p><i>changes to water quality</i> and to sediment quality and quantity <i>due to erosion...</i></p> <p>changes to water quality and to sediment quality and quantity associated with the following project considerations: (i) ML/ARD potential; and (ii) discharge, spills, releases, runoff and seepage of wastewater effluent, solid waste leachate, hazardous wastes, fuels, explosives, zinc and lead concentrates, road maintenance substances and materials (e.g., road salts), contaminants and chemical additives.</p>	<p>1. For specific additions recommended, make the following changes: <i>changes to water</i> and sediment quality <i>at water crossings...</i> <i>changes to water</i> and sediment quality <i>due to thaw slumps...</i> <i>changes to water</i> and sediment quality <i>due to erosion...</i></p> <p>2. Do not add the following points: - ML/ARD potential (Section 7.2.1.4- Granular materials adequately covers this.) - Reference to effluent, solid waste leachate, and hazardous wastes</p> <p>SCML agrees with the following additions: - Fuels - Explosives - Concentrates - Road Maintenance substances - Contaminants - Chemical additives</p>	<p>provided in the ToR is not meant to be exhaustive. Any and all effects pathways that SCML expects to be present in the proposed development must be presented in the DAR. Overlap between sections (e.g. for the description of potential effects associated with metal leaching and acid rock drainage) can be described in the concordance table provided with the DAR.</p>
24	Gov of Canada: Sarah Robertson	GoC - EC #18 Section 7: Assessment of Environmental Impacts and Cumulative Effects, 7.2.3.2 Water and Sediment Quality	<p>Comment The last sentence of Section 7.2.3.2 (Water and Sediment Quality) refers to relevant management plans. In addition to the plan listed, spill contingency planning, prevention of erosion and sedimentation, waste management, and fuels/chemicals management should also be listed.</p> <p>Recommendation The last sentence of Section 7.2.3.2 should list additional management plans. The following additions (bold text) to the existing wording (italicized text) in Section 7.2.3.2 (Water and Sediment Quality) are recommended: <i>The evaluation of effects related to water and sediment will be supplemented by material in management plans, including for road operations</i>, spill contingency planning, prevention of erosion and sedimentation, waste management, and fuels/chemicals management.</p>	SCML agrees with this comment.	All relevant mitigation measures to prevent significant adverse effects must be described as per ToR sections 4(11) and 3.1.5
25	Gov of Canada: Sarah Robertson	GoC - EC #19 Section 3: Scope Considerations, 3.2.1 Effects Assessment - Valued Components Table 2: Valued Components, Fish and aquatic habitat	<p>Comment The list of "Subjects to Consider" does not adequately represent spills of hazardous substances to fish-bearing waterways.</p> <p>Recommendation "Risk of deleterious effects from spills of hazardous substances to fish-bearing waterways" should be added in the column 'Subjects to Consider'.</p>	<p>RATIONALE FOR RECOMMENDATION The risks associated with hazardous substances are proposed as a Key line of inquiry (see 7.1.2 Accidents and Malfunctions).</p> <p>RECOMMENDATION No change recommended based on this comment</p>	Table 2 from the DPTor was removed from the draft ToR. Assessment of effects due to spills of hazardous substances is described in ToR Section 6.1.2.1.

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26	Gov of Canada: Sarah Robertson	GoC - EC #20 Section 3: Scope Considerations, 3.2.4 Key Lines of Inquiry, Accidents and Malfunctions	Comment The list of potential hazardous materials does not include explosives. Recommendation "Explosives and components of explosives (e.g. ammonium nitrate)" should be added to the list of potential hazardous materials.	RATIONALE FOR RECOMMENDATION Explosives are being used in the Construction Phase and the Operations Phase for avalanche control. RECOMMENDATION SCML agrees to include "Explosives and components of explosives (ammonium nitrate)" to the Accidents and Malfunctions Key line of inquiry.	See ToR Section 6.1.2.1
27	Gov of Canada: Sarah Robertson	GoC - EC #21 Section 3: Scope Considerations, 3.3 Geographic Scope Table 3: Minimum Geographic Scope for Assessment of Valued Components	Comment The geographic scope does not adequately allow for spill planning. Recommendation The rows pertaining to 'Water and sediment quality' and 'Fish and aquatic habitat', and under the columns 'Geographic Scope during Construction' and 'Geographic Scope during Operations', Spill Risk "downstream extent of potential impact" according to the pending risk assessment (as indicated Table 4, Rationale for Minimum Geographic Scopes for Valued Components) should be included while also allowing for conservatism.	RATIONALE FOR RECOMMENDATION It is important to note that Table 3 summarizes "Minimum Geographic Scope for Assessment of Valued Components" and if effects are detected beyond these thresholds they will be assessed, monitored and adaptively managed. This comment was not very clear – but SCML is confident that assessment to the minimum distance of "downstream to extent of potential impact" is adequate to allow for spill planning. RECOMMENDATION No change recommended based on this comment	Section 3.2.7 of ToR describes that in the DAR, the developer will identify the geographic scope for each valued component used in the assessment of the KLOIs and subject of notes for all phases of the project. This geographic area will be based on the extent of potential project effects to each valued component and therefore does not need to be finalized at this point in the EA process.
28	Gov of Canada: Sarah Robertson	GoC - EC #22 Section 5: Development Description, 5.2 Development Components and Activities Table 7: Project Description for Operations Phase, Emergency Response	Comment The list of potential hazardous materials does not include explosives. Recommendation "Explosives and components of explosives (e.g. ammonium nitrate)" should be added to the list of potential hazardous materials. A supplemental management plan for ammonium nitrate is recommended.	RATIONALE FOR RECOMMENDATION Explosives are included as a Subject to consider in Table 6 in the Road Upgrade Component for Construction. Explosives will be required for the Operations Phase for Avalanche control purpose. Road Maintenance in Table 7 includes avalanches as a Subject to consider. RECOMMENDATION SCML agrees that an explosives operations plan will be developed which will include the management of ammonium nitrate. SCML agrees that "Explosives and components of explosives (e.g. ammonium nitrate)" should be added in Table in the Subject to consider in the Road Maintenance Project Component.	Added to Table 2 of ToR.
29	Gov of Canada: Sarah Robertson	GoC - EC #23 Section 7: Assesment of Environmental	Comment EC notes that several clarifications with regard to environmental emergency planning and response are needed. Recommendation The first bullet should be changed from "risk assessment" to "Hazard Identification and Quantitative Risk	RATIONALE FOR RECOMMENDATION A Quantitative risk assessment implies there are accepted methods for this approach. As an example, there are accepted quantitative methods for Human Health Risk Assessment and Ecological Risk Assessment.	See updates to ToR section 6.1.2

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		Impacts and Cumulative Effects, 7.1.2 Accidents and Malfunctions	Assessment”; and to the second bullet add “...and contributing and/or complicating factors”.	SCML is not aware of accepted quantitative risk assessment methods for Accidents and Malfunctions. Other than this point, SCML agrees with the recommendation. RECOMMENDATION Make the recommended changes, but using the phrase “Hazard identification and risk assessment”.	
30	Gov of Canada: Sarah Robertson	GoC - TC #1 Scope of Development - SCML will identify all permits, licences or other regulatory approvals necessary for the different phases of the development and all land tenure agreements required.	Comment Based on the information Transport Canada has to date, any in-water works/activities proposed by SCML for the Howard's Pass Access Road Upgrade Project are not on waterways listed in the Navigation Protection Act Schedule and are therefore does not require an application or to give notice to TC regarding the proposed project activities. Section 4(1) of the Navigation Protection Act contains a provision which allows SCML the option to request to “opt-in” to Transport Canada’s legislative regime and the Navigation Protection Act review process for any, or all of the in-water works/activities related to the Howard's Pass Access Road Upgrade Project. If accepted by TC under Section 4(1) then all provisions and review processes of the NPA would apply to the work. The following website provides more information on the NPA: http://www.tc.gc.ca/eng/programs-621.html Recommendation SCML to provide its intention to request to “Opt-In” for any in-water works/activities proposed for the Howard's Pass Access Road Upgrade Project.	This is not an issue for the Terms of Reference. SCML will look into this and respond directly to the Party.	Not relevant to the ToR, no response required.
31	Gov of Canada: Sarah Robertson	GoC - PCA #1 Letter	Comment Letter from PCA regarding comments on the Developer's Proposed Terms of Reference. Recommendation See attached.	No response needed to this letter – the comments are listed separately.	No response required
32	Gov of Canada: Sarah Robertson	GoC - PCA #2 Scope of Development - Fire Management Section 3.1, Table 1 Operation Phase	Comment Parks Canada recognizes the ecological importance of fire on the landscape and does not suppress natural fires that do not threaten values at risk. Management action is largely to observe and indirect facility protection measures may be considered when fires threaten values at risk and have been ignited by people. Recommendation Parks Canada recommends the inclusion of the potential for human caused wild fires, prevention and response.	RATIONALE FOR RECOMMENDATION Wildfire response in the area of the HPAR is clearly a Parks Canada/GNWT responsibility. SCML agrees that measures will be outlined in the DAR to ensure the safety of workers including prevention in an Emergency Response Plan. RECOMMENDATION SCML agrees that adding potential for human caused wildfires and prevention in an Emergency Response Plans is appropriate.	Incorporated into Table 2; emergency response.
33	Gov of Canada: Sarah	GoC - PCA #3 Scope of Development -	Comment The management of overburden (topsoil removed during preparation for road widening) will be an issue for both the borrow bits and in the building of the HPAR however, it is only found in the "borrow	SCML agrees with the reviewer’s comment.	Added to Table 1 of ToR

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	Robertson	ADD Overburden Section 3.1- Table 1 Construction Phase	pit" section of Table 1. Recommendation Parks Canada recommends that the TOR include proposed practices for the management of overburden as a topic in the construction phase/HPAR section of Table 1 (topic is shown in borrow pits section already)		
34	Gov of Canada: Sarah Robertson	GoC - PCA #4 Scope of Assessment - Bedrock and Surface Geology (Section 3.2, Table 2 Valued Components)	Comment There is a potential that sources of riprap could contribute to acid rock drainage. Recommendation Parks Canada recommends that acid rock drainage potential (including riprap and quarry sites) be added as a Subject to consider for the "bedrock geology and surficial geology" valued component.	SCML agrees with the reviewer's comment.	Table 2 from the DPTOR was removed from the draft ToR. Potential for acid rock drainage and metal leaching must be considered as per ToR Section 6.2.3.2.
35	Gov of Canada: Sarah Robertson	GoC - PCA #5 Scope of Assessment - Water and Sediment Quality (Section 3.2 Table 2 Valued Components)	Comment This project has the potential to impact watercourses through the withdrawal of water for various purposes (construction camps, dust control etc..) Recommendation Parks Canada recommends that the valued component "water and sediment quality" be changed to "water and sediment quality and quantity" to include consideration of potential volume changes in watercourses. Parks Canada would also like to ensure that this valued component include consideration of all types and sizes of streams including wetlands. Note that our main concern is that this is focused on "major streams" only. Parks Canada is interested in the environmental impacts of all stream sizes and types. The effects assessment (section 7.2.3) suggests that there will be a watershed scale assessment of all types and sizes of streams which we are in agreement with.	RATIONALE FOR RECOMMENDATION Water withdrawal The HPAR Upgrade Project Description Report (June 2015) (PDR) indicates that water will be withdrawn from only "major creeks" to an upper limit of less than 5 % at any time of total stream flow for the temporary construction camps. Sediment quantity SCML understands the concern about sediment quantity to be based on a potential for alteration of stream and lake sediment characteristics (such as the amount and distribution of fine sediment) and impacts on benthic habitat, due to erosion and sedimentation. This is best assessed under the VC "fish and aquatic habitat". Requirements for information on and control of erosion and sedimentation are throughout the Terms of Reference, for all project phases. Adding a separate consideration of "sediment quantity" is unnecessary. RECOMMENDATION 1. SCML recommends not adding sediment quantity. 2. SCML agrees with the assessment of streams and creeks in the DAR (as summarized in the HPAR Upgrade Project Description Report (June 2015), Section 5.1.8 Temporary construction camps) for water withdrawal. 3. SCML agrees with the assessment of stream and creeks for which water withdrawal is contemplated during the Operations phase of HPAR. 4. SCML agrees with the assessment of stream and creeks for which	Effects to sediment quantity must be assessed as per ToR section 6.2.1.2. Effects because of changes in sediment quantity must be assessed as per ToR section 6.2.3.2. Effects due to changes in water and sediment quality must be assessed as per ToR section 6.2.3.2. Potential effects to the volume of water in watercourses must be assessed as per ToR section 6.2.3.1.

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				water withdrawal is contemplated during the Closure phase of HPAR.	
36	Gov of Canada: Sarah Robertson	GoC - PCA #6 Scope of Assessment - Fish and Aquatic Habitat (Section 3.2 Table 2 Valued Components)	Comment Parks Canada would like to note that the presence of Burbot has already been confirmed in the Little Nahanni watershed (Babaluk et al. 2015, Fig 16 page 55). Recommendation Parks Canada recommends that Burbot and Bull Trout be included in the scope of the assessment.	<p>RATIONALE FOR RECOMMENDATION</p> <p>Burbot Burbot are present in the project area (based on the report referenced by the reviewer and on the inventory conducted by Triton Environmental Consultants for (HPAR Upgrade Project Description Report (PDR) (June 2015) section 4.2.6). As noted in the PDR (p. 58) burbot spawn in the winter under lake ice and the young-of-the-year may move into streams during the open water season. Arctic grayling and lake trout, rather than burbot or slimy sculpins (also present) were selected for special attention (subjects to consider) as they are considered the species most likely to be affected by the development, based on their presence in or near the streams crossing the road, and the lakes and river near the road, and on their sensitivity, especially during spawning and rearing, to water quality degradation and habitat disturbance. Nonetheless, the proposed VC is 'Fish and aquatic habitat'. This is inclusive of all fish species present in at the stream crossings and in the downstream zone of potential influence.</p> <p>Bull trout Based on work undertaken by SCML and on literature review of recent papers on bull trout distribution, it is highly unlikely that bull trout occur in the Little Nahanni River or upper Flat River watersheds. Fish surveys were conducted by Parks, DFO and others, 2004-2007 with a primary aim of documentation of bull trout distribution in the South Nahanni watershed. Sites in the Little Nahanni, Steel Creek and Flat Lakes were included. Habitat favourable to bull trout was targeted. The study included literature review and use of local knowledge. Extensive surveys over four years did not find any bull trout upstream of Virginia Falls. The authors consider that the few previous unverified records upstream of Virginia Falls were likely misidentified lake trout. (Babaluk, J. A., Sawatzky, C. D., Watkinson, D. A., Tate, D. P., Mochnacz, N. J., & Reist, J. D. (2015). Distributions of Fish Species within the South Nahanni River Watershed, Northwest Territories. Winnipeg: Canadian Manuscript Report of Fisheries and Aquatic Sciences 3064. Fisheries and Oceans Canada.) None of the reports of past aquatic inventories in the area indicated bull trout as present. They were not detected in the fish and fish habitat survey conducted in 2014 by Triton Environmental Services for SCML (HPAR Upgrade Project Description Report June 2015 section 4.2.6). It is highly improbable that multiple sampling methods across all sample sites would not have detected this species had it been</p>	Table 2 has been removed from the ToR, however all fish species have been included for consideration in Sections 5 and 6 of the ToR. With respect to Bull Trout, specifically, as they are listed as a species of special concern under COSEWIC, the Board requires SCML to consider them in their description of baseline environment and effects assessment.

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				<p>present.</p> <p>RECOMMENDATION</p> <p>1. Do not add burbot and bull trout as Subjects to consider for the Fish and aquatic habitat VC (Table 2).</p> <p>2. For clarity, revise the Subjects to consider for the VC Fish and aquatic habitat (Table 2) to: “year-round effects on fish species present with particular consideration of Arctic grayling and lake trout; spawning and rearing habitat quality; lake and wetland habitat and connectivity.”</p>	
37	Gov of Canada: Sarah Robertson	GoC - PCA #7 Scope of Assessment - Fish and Aquatic Habitat (Section 3.2 Table 2 Valued Components)	<p>Comment</p> <p>Recommendation Parks Canada recommends that the subjects to consider for the "fish and fish habitat" valued component include the connectivity of lakes and wetlands. Suggested wording for the subjects to consider would be "Arctic grayling and lake trout; spawning and rearing habitat quality; lake and wetland habitat and connectivity".</p>	<p>Agree with reviewer comment.</p> <p>RECOMMENDATION</p> <p>Subjects to consider under Fish and aquatic habitat (Table 2) be reworded to “Year-round effects on fish species present with particular consideration of Arctic grayling and lake trout; spawning and rearing habitat quality; lake and wetland habitat and connectivity.”</p>	<p>Effects to fish and fish habitat will be assessed as per ToR Section 6.2.5. Specific reference to connectivity and spawning and rearing habitat are made in ToR sections 6.2.5.3 and 6.2.5.2, respectively. It is important to note that this list is not exhaustive of all the potential effects pathways that SCML should consider.</p>
38	Gov of Canada: Sarah Robertson	GoC - PCA #8 Scope of Assessment - Wildlife and wildlife habitat Section 3.2, Table 2 Valued Components)	<p>Comment Road construction and operations, particularly in consideration of avalanche control activities, have the potential to impact Dall's Sheep and Mountain Goat, these species are not listed as subjects to consider for the "Wildlife and wildlife" habitat valued component. The project may also have impacts on beaver, marten, lynx and snowshoe hare which are not identified as a Subject to consider. Recommendation Parks Canada recommends that the subjects to consider for the "wildlife and wildlife habitat" valued component include: Dall's Sheep, Mountain Goat, beaver, marten, lynx and snowshoe hare.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Mountain Goats</p> <p>Mountain goats have been identified in a small centre of habitation in the headwaters of March Creek – a tributary that crosses the HPAR at km 53.3. Mountain goats are known to be sensitive to aircraft over-flight activity. Hence SCML has limited the mountain goat survey efforts to minimize frequency of disturbance to them. Since 2007 biologists conducting the surveys have made 12 mountain goat observations that indicate that there are at least 10 mountain goats utilizing a traditional range here. The closest proximity that the HPAR comes to range used by mountain goats based on these surveys is at the Steel Creek bridge (km 62.7) which is about 4 km northwest of a south-facing escarpment used by the goats. It is unlikely that the goats will be exposed to HPAR activity. They should, however be identified as a subjects to consider and mitigations measures should be included to prevent potential disturbance from other activities such as avalanche control.</p> <p>Mountain Sheep</p> <p>Caribou post-calving surveys during mid-summer serve well to detect mountain sheep as they both occur in the same habitable range during this season. Since 2007 SCML has conducted intensive post-calving</p>	<p>Dall's sheep and Mountain Goat are included in the TOR as part a component of Subject of Note: Wildlife and wildlife habitat. For greater context, Selwyn should include information on any species the project has the potential to impact. The project's potential to impact a species should determine the extent of SCML's investigation, which includes sensory disturbances. Section 5.1.7 and 6.2.6 outline the requirements for SCML's investigation.</p>

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				<p>surveys of an area of the Selwyn Mountains that includes the HPAR corridor and is 2446 km² in size, utilizing over 60 hours of survey flight time. The surveys detected 2 female mountain sheep transiting through an area about 7.5 km south of XY camp (which is located in the Yukon). Subsequent survey of the area did not locate these sheep. Hence they must have moved on to more suitable range, as they would not have survived a winter in the HPAR area. Mountain sheep are known to inhabit snow-shadow regions and semi-arid climates. Snow conditions in the ungulate study areas likely are too excessive for mountain sheep to occur there. SCML is not aware of any previous surveys or historical records that identify mountain sheep as a component species in this area. Therefore, mountain sheep have not been identified as a Subject to consider in the wildlife and wildlife habitat VC.</p> <p>Beaver, marten, lynx and snowshoe hare</p> <p>SCML recognizes that it is important to consider the diversity of wildlife species that occur in the project area. The wildlife and wildlife habitat VC should not be construed as being limited to certain species.</p> <p>Nonetheless, it is important to focus the assessment by identifying species as Subjects to consider where the local population might be vulnerable to the road upgrade and/or use and the assessment of potential impact on these species will inform project design and/or operation. In addition, species with conservation concerns are included and moose are included due to their importance in food provision. SCML is reluctant to list additional species as Subjects to consider, as this implies that certain species only are to be considered, one by one (and the expanded species list is different among different reviewers). A more ecosystem-based approach that assesses project effects on ecological processes and structure, addressing habitat connectivity and ecological integrity, rather than on a species by species basis, will provide better direction for mitigation. General measures to mitigate effects on common species with no conservation concern are possible without assessing the effects of the project on each individually. Baseline data will still be presented on additional species (including beaver, for which SCML has good distribution data from field work in 2015).</p> <p>RECOMMENDATION</p> <ol style="list-style-type: none">1. Add mountain goats to the list of Subjects to consider for the Wildlife and wildlife habitat VC (included in recommendation 3).2. Do not add Dall's sheep to this list.3. For clarity, revise the Wildlife and wildlife habitat VC to read:	

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				“Year-round effects on wildlife habitat and wildlife present with particular consideration of Northern mountain woodland caribou (Nahanni Caribou Herd), grizzly bear, wolverine, moose, song birds, cliff nesting raptors and waterfowl, and of effects of invasive species”	
39	Gov of Canada: Sarah Robertson	GoC - PCA #9 Scope of Assessment - National Park Reserves (NPRs) (Section 3.2 Table 2)	Comment "National Park Reserves" are not a single valued component as the analysis of impacts on all of the valued components would be relevant within the NPRs. When considering impacts within the NPRs, Parks Canada considers both natural and cultural resources as well as impacts on visitor experience. Currently the suite of valued components selected will ensure that both the natural and cultural resources of the NPRs are considered however, visitor experience is not directly captured as a valued component. Maintaining a quality visitor experience is an important consideration for Parks Canada. Visitors come to northern national parks for an authentic and pristine wilderness experience. Key elements of the wilderness experience include such things as solitude and natural viewsapes. If this were to be added as a valued component in the assessment it would ensure this assessment provides a comprehensive consideration of Parks Canada's mandate. Recommendation Parks Canada recommends that "National Park Reserves" be removed as a valued component and that "Visitor Experience" be added as a valued component.	<p>RATIONALE FOR RECOMMENDATION In Table 2, “Visitor Experience” is included as a Subject to consider for the National Park Reserve VC along with visitor access, park heritage and cultural resources, and ecological integrity.</p> <p>RECOMMENDATION No change recommended based on this comment.</p>	Visitor experience is included as a subject to address in ToR Section 6.1.3 (3).
40	Gov of Canada: Sarah Robertson	GoC - PCA #10 Scope of Assessment - Key line of inquiry- National Park Reserves Section 3.2.4	Comment The National Park Reserve Key line of inquiry must consider the effects assessment for all subjects of note and key lines of inquiry in the context of Nahanni and Nááts'ihch'oh National Park Reserves. The subjects of note and key lines of inquiry currently identified in the ToR(if "Visitor Experience" is added) represent the elements that must be considered when assessing impacts on ecological integrity, cultural resources, and visitor experience within the NPRs. As a result, the analysis done for each subject of note and Key line of inquiry within the assessment can be used to inform a focused assessment of impacts on the NPRs. All subjects of note, which are reflected as valued components, and other key lines of inquiry, apply and are relevant within the NPRs. Of particular concern for Park Canada are potential impacts and risk of impacts to: the “ecological integrity” of the NPRs which means, with respect to a park, a condition that is determined to be characteristic of its natural region and likely to persist, including abiotic components and the composition and abundance of native species and biological communities, rates of change and supporting processes. In plain language, ecosystems have integrity when they have their native	<p>RATIONALE FOR RECOMMENDATION SCML agrees with this comment. It has been SCML’s intention that the Key line of inquiry assessments in all instances link directly to the analysis of impacts on the subjects of note and other key lines of inquiry within the assessment. This is consistent with good assessment practices.</p> <p>RECOMMENDATION No change recommended based on this comment.</p>	Please see commentary in ToR section 6.1.3

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			<p>components intact, including: abiotic components (the physical elements, e.g. water, rocks), biodiversity (the composition and abundance of species and communities in an ecosystem, e.g. landscape and species diversity) and ecosystem processes (the engines that makes ecosystem work; e.g. fire, flooding, predation).</p> <p>cultural resources (including heritage resources) and their associated heritage values within each NPR,</p> <p>visitor experience including access within the NPRs and,</p> <p>the current use of lands and resources as well as the health and socio-economic conditions of Aboriginal People</p> <p>Recommendation Parks Canada recommends that the National Park Reserves Key line of inquiry assessment link directly to the analysis of impacts on the subjects of note and other key lines of inquiry within the assessment. The National Park Reserve Key Line of Inquire must consider the effects assessment for all subject of note and Key line of inquiry in the context of Nahanni and Nááts'ihch'oh National Park Reserves.</p>		
41	Gov of Canada: Sarah Robertson	GoC - PCA #11 Scope of Assessment - Key line of inquiry-Nahanni Caribou Herd Section 3.2.4	<p>Comment There is potential for impacts on a number of caribou herds in the area of the project. As a result Parks Canada would like the Key line of inquiry to refer to just "caribou" and not specifically the Nahanni Caribou Herd.</p> <p>Recommendation Parks Canada recommends replacing "Nahanni caribou Herd" with just "Caribou" for the Key line of inquiry</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>The Finlayson herd is potentially affected by the proposed Selwyn mine in areas to the west of the mine, but its range is not along the HPAR and it is not potentially affected by the HPAR. The Redstone herd is well to the north and is not potentially affected. There is no evidence that these herds overlap with the study area.</p> <p>The management unit used by responsible jurisdictions for woodland caribou is the 'herd' with a designated range based on telemetry studies and local knowledge. In this way management, applications (ie. sustainable harvest rates, etc.) are not compounded over other populations that may have differing population characteristics. To lump them as the species – 'caribou' - or the north American larger designation – 'woodland caribou ecotype' seems simplistic and a large departure from the convention of the herd designation commonly used. DNA studies in YT and NWT have found that the herds are relatively genetically distinct and conform well to the herd designation made by ecological observations.</p> <p>RECOMMENDATION</p> <p>Maintain the focus on the Nahanni Caribou Herd for the Key line of inquiry (do not replace this with "caribou")</p>	The ToR requires an assessment of effects to the KLOI for "Caribou" and includes both the Nahanni and Redstone herds.
42	Gov of Canada: Sarah Robertson	GoC - PCA #12 Scope of Assessment - General Scope	Comment Section 3.2.3 "Issue Prioritization" identifies that "SCML will consider all the items described in sections 6-10 because every issue identified in this Terms of Reference requires serious consideration and substantive analysis to demonstrate whether the development is likely	<p>RATIONALE FOR RECOMMENDATION</p> <p>SCML supports the practice of the Board to scope the assessment to key lines of inquiry that require greater emphasis and substantive analysis. It is SCML's understanding that the practice of differentiating "Key Lines</p>	See ToR Section 3.2.6 for clarification.

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		of Assessment comment Section 3.2.3 and 3.2.5	to be the cause of, or contribute to, significant adverse impacts." Then, section 3.2.5 "Subjects of Note" outlines that "Valued components of a lower priority are classified as "subjects of note" and should be described in the DAR with less detail than the key lines of inquiry." This results in confusion as to the level of assessment that will be done on the valued components identified, which have also been outlined as the subjects of note. It is important to Parks Canada that all valued components identified undergo serious consideration and substantive analysis to demonstrate whether the development is likely to be the cause of, or contribute to, significant adverse impacts. Recommendation Parks Canada recommends that the TOR clearly indicate that the subjects of note will undergo substantive analysis by modifying the wording in section 3.2.5 to reflect what has been outlined in section 3.2.3.	of Inquiry" from "Subjects of Note" does not alter the need to provide sufficient evidence to support a determination of significance of adverse environmental effects. RECOMMENDATION No change recommended based on this comment.	
43	Gov of Canada: Sarah Robertson	GoC - PCA #13 Geographic Scope - Section 3.3	Comment This section provides the geographic scope for all valued components being considered, which also happen to line up with the "Subjects of Note". This section does not identify the geographic scope for the "Key Lines of Inquiry". Recommendation Parks Canada would like to know where the geographic scope of the "Key Lines of Inquiry" will be identified.	RATIONALE FOR RECOMMENDATION This response is intended to answer the reviewer's question. The geographic scope of the "Key Lines of Inquiry" relate directly to those of the "Subjects of Note" as follows: <ul style="list-style-type: none"> Nahanni Caribou Herd = Wildlife and Wildlife Habitat and Species at Risk. Risk of Spills = Water and Sediment Quality / Fish and Fish Habitat National Park Reserves = National Park Reserve Boundaries Benefits and Effects on Communities = Potentially Affected Communities. RECOMMENDATION No change recommended based on this comment.	Geographic scope of assessment must be identified in the DAR as per ToR section 3.2.7
44	Gov of Canada: Sarah Robertson	GoC - PCA #14 Geographic Scope - Air Quality Section 3.3, Table 3	Comment The current geographic scope for air quality has been identified as 1km from the road. It is Parks Canada's view that impacts to air quality could go beyond 1km as traffic emissions could accumulate in the valleys during cold weather inversions. There is also a possibility of downwind accumulation of airborne contaminants in lichen. Recommendation Parks Canada recommends increasing the geographic scope of Air Quality impacts to include the width of the following river/creek valleys to the extent where reasonable foreseeable project effects cease to occur: Little Nahanni River, Placer Creek, Steel Creek, Lened creek, Mac Creek, Guthrie Creek, Zenchuck Creek and the Flat Lakes.	RATIONALE FOR RECOMMENDATION It is not clear from the comment if the reviewer is seeking a zone of potential effects that includes complete drainage basins from the list of rivers/creeks. It is SCML's view that this would broaden the scope of the air quality assessment to an unreasonable large area that would be beyond the effects from road traffic. Air quality experts were consulted and a 1 km effects assessment area is seen to be technically reasonable given the size and scope of the HPAR Project. It is also important to note that Table 3 summarizes "Minimum Geographic Scope for Assessment of Valued Components" and if effects are detected beyond these thresholds, they will be assessed, monitored and adaptively managed.	Geographic scope of assessment must be identified in the DAR as per ToR section 3.2.7. The Developer must provide rationale for its selection of geographic scope in the DAR and should consider Parks' comment in the development of this scope.
45	Gov of	GoC - PCA #15	Comment The current geographic scope of water and sediment quality	RATIONALE FOR RECOMMENDATION	Geographic scope of

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	Canada: Sarah Robertson	Geographic Scope - Water and Sediment Quality Section 3.3, Table 3	has been identified as within 100m of road and 200m downstream from road and stream crossings. Parks Canada would like this to be broadened in order to ensure all potential impacts to the watershed are captured. Recommendation Parks Canada recommends this geographic scope to be revisited. Parks Canada's main concern is that the current geographic scope will be too restrictive in the context of the potential impacts on Water Quantity and Water and Sediment Quality. Parks Canada would rather the geographic scope of assessment at this point in the process remain broader and outcomes based with a focus on the sensitivity of the area and the potential impacts rather than specifying a definitive area of impact.	It is important to note that Table 3 summarizes “Minimum Geographic Scope for Assessment of Valued Components” and if effects are detected beyond these thresholds they will be assessed, monitored and adaptively managed. RECOMMENDATION No change recommended based on this comment.	assessment must be identified in the DAR as per ToR section 3.2.7 The Developer must provide rationale for its selection of geographic scope in the DAR and should consider Parks' comment in the development of this scope.
46	Gov of Canada: Sarah Robertson	GoC - PCA #16 Geographic Scope - Fish and Fish Habitat Section 3.3, Table 3	Comment The current geographic scope of fish and fish habitat has been identified as within 100m of road and 200m downstream from road and stream crossings. Parks Canada would like this to be broadened in order to ensure all potential impacts to the fish and fish habitat are captured. Recommendation Parks Canada would like this geographic scope to be revisited. Parks Canada's main concern is that the current geographic scope will be too restrictive in the context of the potential impacts on Fish and Fish Habitat. We would rather the geographic scope of assessment at this point in the process remain broader and outcomes based with a focus on the sensitivity of the area and the potential impacts rather than specifying a definitive area of impact.	RATIONALE FOR RECOMMENDATION Please note that this is a minimum scope, not a restriction on the scope of the assessment. The MVEIRB template provided to SCML asked for minimum distances to be provided. These distances are reasonable estimates for minimum geographic scope. RECOMMENDATION Maintain these minimum distances, but add “The scope will be extended as needed to encompass sensitive habitat.”	Geographic scope of assessment must be identified in the DAR as per ToR section 3.2.7. The Developer must provide rationale for its selection of geographic scope in the DAR and should consider Parks' comment in the development of this scope.
47	Gov of Canada: Sarah Robertson	GoC - PCA #17 Geographic Scope - Wildlife and wildlife habitat Section 3.3, Table 3	Comment The geographic scope of Wildlife and wildlife habitat has been identified as "Dependent upon species/population ranges and habitat requirements, and also on potential effect being evaluated". Parks Canada would like this scope to have a bit more detail. The Canadian Zinc ToR outlines "Defined on a species-specific basis as an area large enough to assess potential impacts at a population level, taking into consideration the seasonal movements, migratory movements, and lifecycle requirements of each species" as the geographic scope for this valued component which seems appropriate for this development. Recommendation Parks Canada recommends changing the geographic scope of wildlife and wildlife habitat to "Defined on a species-specific basis as an area large enough to assess potential impacts at a population level, taking into consideration the seasonal movements, migratory movements, and lifecycle requirements of each species".	RATIONALE FOR RECOMMENDATION This is a good revision and in line with current work undertaken by SCML. For example, the definition is consistent with the caribou study area. SCML has identified the contextual study area with both local and regional study areas. The contextual study area is the known range of the Nahanni Caribou Herds so that effects can be evaluated at a population level. RECOMMENDATION Adopt the proposed wording: "Defined on a species-specific basis as an area large enough to assess potential impacts at a population level, taking into consideration the seasonal movements, migratory movements, and lifecycle requirements of each species".	Geographic scope of assessment must be identified in the DAR as per ToR section 3.3. The Developer must provide rationale for its selection of geographic scope in the DAR and should consider Parks' comment in the development of this scope.
48	Gov of Canada: Sarah Robertson	GoC - PCA #18 Geographic Scope - Traditional Land	Comment The geographic scope for Traditional Land Use and Harvesting has been identified as "Dependent upon traditional harvesting and other traditional use patterns" which is somewhat vague. Recommendation Parks Canada recommends that the geographic scope	RATIONALE FOR RECOMMENDATION The geographic scope for “Traditional Land Use and Harvesting” cannot be specified further in the absence of more knowledge regarding traditional harvesting and traditional use patterns. SCML would	Geographic scope of assessment must be identified in the DAR as per ToR section 3.2.7. The

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		Use and Harvesting Section 3.3, Table 3 & 4	of Traditional Land Use and Harvesting (Table 3) include reference to a range of harvested and potentially impacted species (e.g. caribou), as outlined in the rational (Table 4).	consider the effects of the project on such traditional activities should future consultations, currently available or proposed traditional knowledge studies determine that the area is utilized for such purposes and which species are being harvested in the area. RECOMMENDATION No change recommended based on this comment.	Developer must provide rationale for its selection of geographic scope in the DAR and should consider Parks' comment in the development of this scope.
49	Gov of Canada: Sarah Robertson	GoC - PCA #19 G3.4eographic Scope - National Park Reserves (NPRs) Section 3.3, Table 3, Table 4	Comment See recommendation. Recommendation Parks Canada recommends that "National Park Reserves" be removed as a valued component and that "Visitor Experience" be added as a valued component.	RATIONALE FOR RECOMMENDATION National Park Reserves were considered as VCs as they are geographically well-define and protected features of the socio-economic environment in the NWT and the potentially the receptor of a wide range of effects, including effects on "Visitor Experience". As noted in Table 2, "Visitor Experience" was considered as a Subject to consider for the National Park Reserve VC along with visitor access, park heritage and cultural resources, and ecological integrity. It has been SCML's intention that the assessments in all instances link directly to the analysis of impacts on the subjects of note and other key lines of inquiry within the assessment. This is consistent with good assessment practices. RECOMMENDATION The identification of "Visitor Experience" as separate VCs is not considered necessary. No change recommended based on this comment.	National Parks and Reserves has been added as a KLOI, with changes to visitor experience as a required assessment component (See ToR section 6.1.3.3)
50	Gov of Canada: Sarah Robertson	GoC - PCA #20 Geographic Scope - Potential Affected Communities Section 3.3, Table 3, Table 4	Comment See recommendation. Recommendation Parks Canada suggests adding Fort Simpson and potentially Watson Lake and Ross River if appropriate.	RATIONALE FOR RECOMMENDATION The Sahtu Secretariat Incorporated identified the communities of Tulita and Norman Wells and Dehcho First Nations identified the community of Nahanni Butte for consultation and engagement for the HPAR Project (see HPAR Upgrade Project Description Report (June 2015) Section 8.3.2 Potentially affected communities). SCML has been consulting with these communities since 2006 and has signed a number of Cooperation Agreements. This has resulted in transparency for the developments of the HPAR Project at all phases including previous regulatory applications, training and employment opportunities and other business opportunities. SCML has also entered into an Interim Measures Agreement with Kaska communities (Liard First Nation and Ross River Dena Council). RECOMMENDATION 1. Based on the direction SCML received from the Sahtu Secretariat Incorporated and Dehcho First Nations and the subsequent establishment of Cooperation Agreements and associated consultation programs, SCML does not agree that the scope of Potentially Affected	Based on the evidence provided to date, the Review Board is of the opinion that Fort Simpson does not constitute a potentially affected community. However, due to proximity and the use of the HPAR area by residents of Ross River and Watson Lake for traditional pursuits, these communities are potentially affected communities. If desired, Parks Canada is encouraged to provide supporting evidence regarding why they believe Fort Simpson should be included as a potentially

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				<p>Communities should be expanded to include Fort Simpson.</p> <p>2. SCML also does not agree that the communities of Watson Lake and Ross River should be listed as Potentially Affected Communities as these communities are clearly beyond the geographic scope of the HPAR upgrade project.</p> <p>3. Consultation programs with the Kaska will be ongoing which will ensure traditional concerns are included in the DAR.</p>	affected community during their review of the draft Terms of Reference. The Board can then consider this evidence in the development of its Final Terms of Reference.
51	Gov of Canada: Sarah Robertson	GoC - PCA #21 Temporal Scope - National Park Reserves Section 3.4, table 5	<p>Comment See recommendation.</p> <p>Recommendation Parks Canada recommends that "National Park Reserves" be removed as a valued component and that "Visitor Experience" be added as a valued component.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>National Park Reserves were considered as VCs as they are geographically well-define and protected features of the socio-economic environment in the NWT and the potentially the receptor of a wide range of effects, including effects on “Visitor Experience”. As noted in Table 2, “Visitor Experience” was considered as a Subject to consider for the National Park Reserve VC along with visitor access, park heritage and cultural resources, and ecological integrity. It has been SCML’s intention that the assessments in all instances link directly to the analysis of impacts on the subjects of note and other key lines of inquiry within the assessment. This is consistent with good assessment practices.</p> <p>RECOMMENDATION</p> <p>The identification of “Visitor Experience” as separate VCs is not considered necessary. No change recommended based on this comment.</p>	National Parks and Reserves has been added as a KLOI, with changes to visitor experience as a required assessment component (See ToR section 6.1.3.3)
52	Gov of Canada: Sarah Robertson	GoC - PCA #22 Description of Environment - Section 4.0	<p>Comment The first sentence of this section indicates "SCML will provide a description of existing conditions in sufficient detail to enable an understanding of how the valued components might be affected by the proposed development." It is not clear what the term "existing" refers to, does it mean baseline data that has already been collected or data that captures current baseline? Parks Canada would like to ensure that additional work can be conducted if needed in defining the baseline.</p> <p>Recommendation Parks Canada recommends changing the word "existing" to "baseline" in this first sentence to ensure that additional work can be conducted in collecting baseline information if necessary.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>The term “existing” was used because the road is in existence and in use. The conditions along the road reflect this and do not represent a pristine, static baseline condition. This does not preclude additional information being collected.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	Please see clarification in Section 5 of the ToR.
53	Gov of Canada: Sarah Robertson	GoC - PCA #23 Description of Environment - Section 4.1	<p>Comment The first sentence of this section indicates "SCML will develop the environmental baseline using relevant existing regional data." It is Parks Canada's understanding that the term "existing" in this sentence refers to data that has already been collected. This wording does not allow for cases where additional work must be done to clearly define the baseline.</p> <p>Recommendation Parks Canada recommends this first sentence be</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>There was no intent to restrict further data collection, but rather to emphasize the desirability of drawing on regional data to better understand the ecological conditions along the road and in the vicinity.</p> <p>RECOMMENDATION</p> <p>Revise sentence to, “SCML will develop the environmental baseline using relevant existing regional data, augmented with additional studies</p>	Please see clarification in Section 5 of the ToR.

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			changed to reflect situations where there is a need for additional work to be done to clearly define the baseline.	as needed.”	
54	Gov of Canada: Sarah Robertson	GoC - PCA #24 Description of Environment - Water Quality and Quantity Section 4.1.5 (second bullet)	Comment Parks Canada would like to ensure that a full description of surface water, including streams, lakes and wetlands is provided. This information will provide a full hydrological picture of the area including hydrological connectivity and will therefore assist in considering impacts of water withdrawal. Recommendation Parks Canada recommends the addition of hydrological mapping to the general description of the hydrological characteristics for each major drainage and watercourse including mapping of standing water, e.g. wetlands and lakes.	RATIONALE FOR RECOMMENDATION Water withdrawals will be very limited. The project requires only very small amounts of water for the temporary construction camps and then for dust control during operations. SCML has committed to drawing less than 5% of instantaneous flows. On that basis a complete hydrological assessment is not warranted. RECOMMENDATION No change recommended based on this comment.	Minimum information requirements are outlined in ToR Section 5.1.6. If, after reading the information presented in the DAR, Parks Canada feels that additional information is warranted, they may request it from the Developer during the information request stage.
55	Gov of Canada: Sarah Robertson	GoC - PCA #25 Description of Environment - Water Quality and Quantity Section 4.1.5 (third bullet)	Comment See recommendation for third bullet. Recommendation Parks Canada recommends replacing the word "existing" with "baseline" in the 3rd bullet of section 4.1.5.	SCML agrees with the reviewer’s comment.	Please see clarification in Section 5 of the ToR.
56	Gov of Canada: Sarah Robertson	GoC - PCA #26 Description of Environment - Vegetation Section 4.1.8	Comment Location and abundance of rare plant assemblages is identified as being assessed in section 7.2.4.3 (Rare Plants) but is not identified in section 4.1.8 Recommendation Parks Canada recommends including the location and abundance of rare plant assemblages in the 3rd bullet of section 4.1.8.	SCML agrees with the reviewer’s comment.	Addressed in ToR Section 6.2.4(7)
57	Gov of Canada: Sarah Robertson	GoC - PCA #27 Description of Environment - Vegetation Section 4.1.8 (4th bullet)	Comment In the fourth bullet point, the wording "existing baseline" is unclear Recommendation Parks Canada recommends removing the work "existing" from the 4th bullet of section 4.1.8.	SCML agrees with the reviewer’s comment.	Please see clarification in Section 5 of the ToR.
58	Gov of Canada: Sarah Robertson	GoC - PCA #28 Description of Environment - Heritage and Cultural Resources Section 4.2.3	Comment Section 4.2.3 outlines that "SCML will provide a description of the existing heritage and cultural resources within the vicinity of the HPAR and other areas potentially disturbed by construction to the extent possible using publicly accessible information and other sources that are not confidential. Subjects to be considered include archaeological resources and historic sites; burial sites; heritage resource potential; and, culturally important sites." The reference to "publically accessible information" is unclear as there has been no prior archaeological research done in this area. The assumption is that the information that will be used will come from the completed archaeological overview	RATIONALE FOR RECOMMENDATION SCML confirms that the information that will be used to assess effects to heritage and cultural resources will come from the completed archaeological overview assessment (AOA) and additional archaeological studies under way and will not be limited “publicly accessible information” or existing / known resources. RECOMMENDATION SCML recommends removing the word "existing" from Section 4.2.3.	Please see clarification in Section 5 of the ToR.

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			assessment (AOA) and the archaeological impact assessment (AIA) which is under way. Recommendation Parks Canada would like clarification on what is meant by "publically accessible information". We would also suggest removing the word "existing" which seems to suggest known resources.		
59	Gov of Canada: Sarah Robertson	GoC - PCA #29 Development Description - Road Maintenance Section 5.2 Table 7- Operations	Comment See recommendation. Recommendation Parks Canada recommends adding water withdrawals to the Road Maintenance section of Table 7 which includes location, volumes and timing.	SCML agrees with this comment.	Added to Table 2 of ToR
60	Gov of Canada: Sarah Robertson	GoC - PCA #30 Development Description - Road design/safety elements section 5.3 and Table 6-Road upgrade	Comment Within Table 6-Road Upgrades there is reference to 'safety barriers on bridge approaches' yet given the traffic volume, truck configurations, and geometrics there should be assessment and rationale for implementation of safety barriers and runaway lanes at other locations as well. Recommendation Parks Canada recommends the inclusion of an assessment and rational for implementation of safety barriers at other key locations, particularly where there are horizontal curves of reduced radii and/or adjacent to the banks of water bodies. Safety measures (e.g. runaway lanes) may also be considered at locations of long steep grades.	RECOMMENDATION SCML agrees with this comment.	See ToR Section 3.1.4
61	Gov of Canada: Sarah Robertson	GoC - PCA #31 Assessment of Environmental Impacts and Cumulative Effects - Nahanni Caribou Herd Section 7.1.1	Comment There is potential for impacts on a number of caribou herds in the area of the project. As a result Parks Canada would like the Key line of inquiry to refer to just "caribou" and not specifically the Nahanni Caribou Herd. Recommendation Parks Canada recommends replacing "Nahanni caribou Herd" with just "Caribou" for the Key line of inquiry.	RATIONALE FOR RECOMMENDATION The Finlayson herd is potentially affected by the proposed Selwyn mine in areas to the west of the mine, but its range is not along the HPAR and it is not potentially affected by the HPAR. The Redstone herd is well to the north and is not potentially affected. There is no evidence that these herds overlap with the study area. RECOMMENDATION Maintain the focus on the Nahanni Caribou Herd for the Key line of inquiry (do not replace this with "caribou")	The ToR requires an assessment of effects to the KLOI for "Caribou" and includes both the Nahanni and Redstone herds.
62	Gov of Canada: Sarah Robertson	Goc - PCA #32 Assessment of Environmental Impacts and Cumulative Effects - Nahanni Caribou Herd	Comment The first paragraph of Section 7.1.1 indicates that "SCML will describe and evaluate, using the best available knowledge, the potential effects of the project on caribou within the HPAR corridor." Recommendation Parks Canada would like clarification on what is meant by "using best available knowledge" to ensure that this does not exclude the collection of additional baseline data if necessary.	RATIONALE FOR RECOMMENDATION The use of best available knowledge does not exclude the continued collection of baseline information. SCML will also make use of information from research and monitoring conducted by Parks Canada and others. RECOMMENDATION No changes are recommended based on this comment.	Please see clarification in Section 5 of the ToR.

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		Section 7.1.1			
63	Gov of Canada: Sarah Robertson	GoC - PCA #33 Assessment of Environmental Impacts and Cumulative Effects - Nahanni Caribou Herd Section 7.1.1.1 Mortality Risk	Comment See recommendation. Recommendation Parks Canada recommends adding the risk of caribou mortality due to avalanche from the construction and operation of the road.	SCML agrees with the reviewer's comment. RECOMMENDATION Add a point to Section 7.1.1.1 "-mortality risk from avalanches triggered by road construction or operations or by avalanche control"	See ToR Section 6.1.1.1(3)
64	Gov of Canada: Sarah Robertson	GoC - PCA #34 Assessment of Environmental Impacts and Cumulative Effects - Nahanni Caribou Herd Section 7.1.1.2 - Direct and indirect alteration of habitat, including disturbance	Comment Section 7.1.1.2 refers to disturbance, but only in a general sense. Caribou avoidance of the road could potentially disrupt normal migration patterns, and in the long term perhaps affect gene flow. This could also cause physiological stress, and perhaps lead to lower birth rates. Recommendation Parks Canada recommends adding an additional bullet in this section with the following wording " the effects of avoidance of the road on caribou including physiological stress, restriction of gene flow, or reduced calving rates".	RATIONALE FOR RECOMMENDATION Addition of this recommended requirement presupposes that the road will have a barrier effect, which has not been supported in the studies and case histories of roads bisecting caribou ranges. Section 7.1.1.2 already includes the points "-the project's influence as visual or other sensory disturbance, including effect on habitat avoidance and effective habitat loss; and, -effects of the HPAR on caribou movement patterns" This wording encompasses assessment of all potential effects, without assuming that the road will act as a barrier to migration. RECOMMENDATION No change recommended based on this comment.	Review Board believes that the existing requirements in ToR 6.1.1 adequately capture these specific effects without being overly prescriptive. If, upon reviewing the DAR, PCA feels that these issues have not been assessed adequately, they can request additional information through the information request stage of the EA.
65	Gov of Canada: Sarah Robertson	GoC - PCA #35 Assessment of Environmental Impacts and Cumulative Effects - Nahanni Caribou Herd Section 7.1.1.3 Effects on caribou population	Comment See recommendation. Recommendation Parks Canada recommends adding on the end of the first bullet ".. including the increased risk of predation resulting from the construction and operation of the road (e.g. winter snowplowing creating easier travel routes for predators).	RATIONALE FOR RECOMMENDATION This recommendation (increased risk of predation related to the road) is really a rephrasing of the point that is currently in the Developer's Proposed Terms of Reference: "effects on predator-prey relationships". The added phrase "construction and operation of the road" is redundant. SCML would prefer to keep the current wording, which covers all aspects of this topic. RECOMMENDATION No change recommended based on this comment.	Review Board believes that the existing requirements in ToR 6.1.1 adequately capture these specific effects without being overly prescriptive. If, upon reviewing the DAR, PCA feels that these issues have not been assessed adequately, they can request additional information through the information request stage of the EA.
66	Gov of Canada:	GoC - PCA #36 Assessment of	Comment The term "risk assessment" is included as a stand alone bullet in section 7.1.2.1	SCML agrees with the reviewer's comment.	Please see updated text in section 6.1.2.1 of ToR

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	Sarah Robertson	Environmental Impacts and Cumulative Effects - Accidents and Malfunctions Section 7.1.2	Recommendation Parks Canada recommends providing some specifics related to "risk assessment" such as the wording found in the Canadian Zinc terms of reference: a risk assessment using best practices for the project including components, systems, hazards, and failure modes. assessment of the likelihood and severity of each risk identified.		
67	Gov of Canada: Sarah Robertson	GoC - PCA #37 Assessment of Environmental Impacts and Cumulative Effects - National Park Reserves Section 7.1.3	<p>Comment The National Park Reserve Key line of inquiry must consider the effects assessment for all subjects of note and key lines of inquiry in the context of Nahanni and Nááts'ihch'oh National Park Reserves. The subjects of note and key lines of inquiry currently identified in the ToR(if "Visitor Experience" is added) represent the elements that must be considered when assessing impacts on ecological integrity, cultural resources, and visitor experience within the NPRs. As a result, the analysis done for each subject of note and Key line of inquiry within the assessment can be used to inform a focused assessment of impacts on the NPRs. All subjects of note, which are reflected as valued components, and other key lines of inquiry, apply and are relevant within the NPRs. Of particular concern for Park Canada are potential impacts and risk of impacts to:</p> <p>the “ecological integrity” of the NPRs which means, with respect to a park, a condition that is determined to be characteristic of its natural region and likely to persist, including abiotic components and the composition and abundance of native species and biological communities, rates of change and supporting processes. In plain language, ecosystems have integrity when they have their native components intact, including: abiotic components (the physical elements, e.g. water, rocks), biodiversity (the composition and abundance of species and communities in an ecosystem, e.g. landscape and species diversity) and ecosystem processes (the engines that makes ecosystem work; e.g. fire, flooding, predation).</p> <p>cultural resources (including heritage resources) and their associated heritage values within each NPR,</p> <p>visitor experience including access within the NPRs and,</p> <p>the current use of lands and resources as well as the health and socio-economic conditions of Aboriginal People</p> <p>Recommendation Parks Canada recommends that the National Park Reserves Key line of inquiry assessment link directly to the analysis of impacts on the subjects of note and other key lines of inquiry within the assessment. The National Park Reserve Key Line of Inquire must consider</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>SCML agrees with this comment. It has been SCML’s intention that the Key line of inquiry assessments in all instances link directly to the analysis of impacts on the subjects of note and other key lines of inquiry within the assessment. This is consistent with good assessment practices.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	Section 6.1.3 of the ToR describes that the assessment of the key line of inquiry for National Parks and Reserves must link to all other assessments for subjects of note and key lines of inquiry.

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			the effects assessment for all subject of note and Key line of inquiry in the context of Nahanni and Nááts'ihch'oh National Park Reserves.		
68	Gov of Canada: Sarah Robertson	GoC - PCA #38 Assessment of Environmental Impacts and Cumulative Effects - Bedrock and Surface Geology Section 7.2.1.1	<p>Comment The text in the original Developers Proposed Terms of Reference (Section 7.1; Bullet 7) was "snow distribution and consequences on ground thermal regime". The text in the revised Developers Proposed Terms of Reference (Section 7.2.1.1; bullet 3) is "Snow distribution."</p> <p>Recommendation Parks Canada requests a rationale for why the specific focus on effects of snow distribution on ground thermal regime has been omitted and placed under "effects of permafrost" (Section 7.2.1.1 Bullet 2).</p>	<p>RATIONALE FOR RECOMMENDATION SCML thought this was a better technical approach in terms of the details for the permafrost assessment. This provided clarity on the scope of the assessment for permafrost.</p> <p>RECOMMENDATION No change recommended based on this comment.</p>	Please see clarification in Section 6.2.1.1(2) and (3).
69	Gov of Canada: Sarah Robertson	GoC - PCA #39 Assessment of Environmental Impacts and Cumulative Effects - Air Quality and Sources of Sensory Disturbance Section 7.2.2	<p>Comment Air quality includes vehicle emissions and dust, and will be assessed in relation to effects on the environment (including greenhouse gas emissions) and on human health. Dust is also a potential sensory disturbance to wildlife, as are noise, light and vibration. The effects of these sensory disturbances to wildlife will be discussed in the wildlife and wildlife habitat subject of note and the caribou Key line of inquiry. Recommendation Parks Canada requests that effects of dust also be considered as part of the assessment of potential effects during construction, operation and decommissioning on: i) water quality and quantity and ii) Fish and aquatic habitat. In its current form, the revised document only states "changes to sediment quality from dust and discrete point sources related to road traffic" (Section 7.2.3.2 Bullet 4). It does not appear to specifically address effects of dust on water quality.</p>	<p>RATIONALE FOR RECOMMENDATION SCML feels that the Subject of Note for Water and Sediment Quality (7.2.3.2) covers the concerns raised in this recommendation.</p> <p>RECOMMENDATION No change recommended based on this comment.</p>	Effects of dust are required as per ToR sections 6.2.2.1(1), 6.2.3.2(5), and 6.2.5(4).
70	Gov of Canada: Sarah Robertson	GoC - PCA #40 Assessment of Environmental Impacts and Cumulative Effects - Water and Sediment Section 7.2.3	<p>Comment The text in the original Developers Proposed Terms of Reference (Section 7.4 Bullet 7) was "Discharge or seepage of wastewater effluent, contaminants and chemical additives;". This text in the revised Developers Proposed Terms of Reference (Section 7.2.3 Water and Sediment) appears to be absent.</p> <p>Recommendation Parks Canada Agency requests either that the original text (as stated in the adjacent column) is added to the Updated document or that a rationale for the deletion of this text be provided</p>	<p>RATIONALE FOR RECOMMENDATION This was changed as there will be no wastewater effluent in all phases of this project. Some use may be made of non-hazardous chemicals for dust control for health and safety reasons during operations. The substances used and conditions of use will conform to GNWT guidelines.</p> <p>RECOMMENDATION No change recommended based on this comment.</p>	See ToR section 6.2.3.2(4).
71	Gov of Canada: Sarah Robertson	GoC - PCA #41 Assessment of Environmental Impacts and Cumulative Effects - Fish and Aquatic	<p>Comment The text in the updated Developers Proposed Terms of Reference (Section 7.2.5 - Fish and Aquatic habitat) does not specifically identify assessments of road dust on fish and aquatic habitat</p> <p>Recommendation While Parks Canada recognises explicit linkages between evaluations of potential effects on fish and aquatic habitat to include road operations (See final paragraph in Section 7.2.5.2) we request that Section 7.2.5.1 explicitly include an assessment of the</p>	SCML agrees with this comment.	See ToR Section 6.2.5(4).

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		Habitat Section 7.2.5	potential effects of road dust and all related road dust operations (including water withdrawals for dust control and dust application measures) on fish and aquatic habitat.		
72	Gov of Canada: Sarah Robertson	GoC - PCA #42 Assessment of Environmental Impacts and Cumulative Effects - Wildlife and Wildlife Habitat Section 7.2.6	Comment The introductory paragraph of section 7.2.6 states that " SCML will describe and evaluate, to the extent possible using the best available knowledge, the potential effects of activities associated with all phases of the project on wildlife and wildlife habitat (including birds)..."; however, there may be cases when additional (new) information is required. Recommendation Parks Canada recommends revising the introductory paragraph of section 7.2.6 to ensure that it is clear that new information may need to be collected if required.	RATIONALE FOR RECOMMENDATION SCML acknowledges that some primary research may be required to fill gaps in knowledge related to Key Lines of Inquiry. However, primary research may not be required in other instances where existing available data is considered sufficient to address Subjects of Note. RECOMMENDATION The Terms of Reference should include a provision that SCML should augment existing and available secondary source information with primary research as necessary to fill in gaps in knowledge related to Key Lines of inquiry.	Please see clarification in Section 5 of the ToR.
73	Gov of Canada: Sarah Robertson	GoC - PCA #43 Assessment of Environmental Impacts and Cumulative Effects - Wildlife and Wildlife Habitat Section 7.2.6.1	Comment This section references the mortality risk from harvesting and collisions however there is no reference to potential mortality from avalanches triggered by road construction / operations (e.g. heavy traffic vibration or plowing) or avalanche control activities. Recommendation Parks Canada recommends including the risk of mortality to wildlife (e.g. ungulates, furbearers, pika) from avalanches as a subject of consideration.	SCML agrees with the reviewer's comment. RECOMMENDATION Add a point to Section 7.2.6.1 "mortality risk from avalanches triggered by road construction or operations or by avalanche control"	See ToR Section 6.2.6.1(2)
74	Gov of Canada: Sarah Robertson	GoC - PCA #44 Assessment of Environmental Impacts and Cumulative Effects - Wildlife and Wildlife Habitat Section 7.2.6.1	Comment Parks Canada recognizes that establishment of the road will likely increase mortality risk due to angling (i.e., harvesting). While increased mortality is identified as a Subject of Note for Wildlife (Section 7.2.6.1; bullet 1) it is not identified as a subject of note for fish. Recommendation Parks Canada suggests that mortality risk due to potential harvest be added as Subject of Note for Fish.	RATIONALE FOR RECOMMENDATION SCML agrees that this should be added. However, note that the road is not being established, but is in place now and accessible to anglers and hunters. The assessment will look at risk of additional harvest. RECOMMENDATION Agree with the reviewer's recommended change.	See Section 6.2.5(6), 6.2.8 and 6.2.9
75	Gov of Canada: Sarah Robertson	GoC - PCA #45 Assessment of Environmental Impacts and Cumulative Effects - Species at Risk Section 7.2.7	Comment This section refers to "requirements outlined in s. 6.6 and 6.7" however it seems like it should be referring to sections 7.2.5 and 7.2.6. Recommendation Parks Canada recommends clarifying section references.	Correct (an error that occurred during revision of the Developer's Proposed Terms of Reference).	No response required
76	Gov of	GoC - PCA #46	Comment Indications are that geological / geotechnical stability is only a	RATIONALE	Minimum information

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	Canada: Sarah Robertson	General Comments - Terrain stability: Section 4.1.1 & Section 7.2.1.1	"Subject of Note" and that "SCML will provide a description of the terrain, geology, soils and permafrost conditions". Such descriptions will be helpful, but more detailed assessment should also be included for sensitive areas. Recommendation In locations where loose or unstable material is present, where cut or fill slopes are steeper than standard cross section, where new permafrost crossings are proposed, etc. Parks Canada recommends a more detailed description and assessment of terrain, geology, soils and permafrost conditions to provide a level of confidence in the proposed design.	The HPAR Upgrade Project Description Report (June 2015) indicates that 1:30,000 scale terrain mapping has been completed. This is sufficient detail for the planning and environmental assessment of the HPAR upgrade project. It is unclear what is being referred to as “more detailed” in the recommendation. Additional geotechnical information will be collected as necessary at the regulatory and final design phase of the HPAR upgrade project. RECOMMENDATION No change recommended based on this comment.	requirements are outlined in the ToR. If, upon review of the information presented in the DAR, Parks requires more detailed information, this can be requested though the information request phase of the EA.
77	Gov of Canada: Sarah Robertson	GoC - PCA #47 General Comments - Hydrology and crossing hydraulics: Section 4.1.5, 5.3, & Table 6- Watercourse crossings	Comment Mention is made of the 2014 design and/or upgrades to existing watercourse crossings. Rather than the proposed 'general description of the hydrological characteristics', a more detailed display of the hydraulic adequacy of the crossings is warranted as the failure of such crossings would have a significant environmental and safety impact Recommendation Parks Canada recommends that the hydrological flow calculations along with structure design hydraulics (both for flow and fish passage) from the 2014 design and/or upgrade be provided to confirm the suitability of these crossing structures in the context of the current proposed project.	RATIONALE FOR RECOMMENDATION The 2014 bridge construction project was an approved project that included the installation of eight new bridges over major streams and improved culvert crossings on major stream crossings. Description of previous work will be provided in the DAR. Determination of hydrological characteristics can reasonably be expected where SCML is extending and/or moving stream culverts. RECOMMENDATION Table 6, watercourse crossings, amend first point to: “- design of existing watercourse crossings in 2014, including bridges (for which no upgrades are needed) and culverts, as well as hydrological design for any watercourse crossings that are to be altered;” 2. No change is needed to section 4.15 as it is related to background information, not stream crossing design. 3. No change is needed to section 5.3, as “design standards” and “watercourse crossings” are included in the list of road design considerations.	Please see requirements in ToR 3.1.1. If, upon reviewing the DAR, PCA requires additional information they may request it from the Developer during the information request phase.
1	Government of Yukon: Monique Chatterton	Government of Yukon #1 - 2015 Land Use and Water Licence Application Package, Volume 2: Project Description Report - South Nahanni	Comment 1) Government of Yukon, Department of Environment (ENV Yukon) is unaware of the referred to habitat suitability modelling exercises. The Planning Division of Parks Canada may have undertaken such work; however, ENV Yukon has not seen a report to that effect, and the work is not referenced in the developer's submission. 2) The joint project referenced (ENV Yukon, Parks Canada and Government of the Northwest Territories) is to develop a habitat suitability model; however, that work has not been completed to date. 3) ENV Yukon has satellite collar data on animals from the South Nahanni Caribou Herd that was provided to the company in 2011; the data is not referenced in the developer's submission.	RATIONALE FOR RECOMMENDATION This comment is on a section of the HPAR Upgrade Project Description Report (June 2015) (PDR) and is not related to the Terms of Reference. In work to date, SCML has taken into account all population, distribution and movement information that was made available, in addition to studies that SCML has carried out. Findings from the caribou satellite study are presented in the 2015 caribou baseline report as Appendix C (produced after the PDR that this comment refers to) and are factored into the Developer's Proposed Terms of Reference. It is SCML's understanding that habitat suitability modelling is ongoing. RECOMMENDATION	TOR includes information and methodology requirements and descriptions. See sections 4(2) and 5.1.7. If GY has outstanding concerns following review of the DAR, they can follow-up on those later through the Information Request phase of the EA process.

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		Caribou Herd, Habitat Suitability Models, page 62	Recommendation It is recommended: -the developer include references to habitat suitability models; -the developer reference and show how they have taken into consideration all currently available data on the South Nahanni Caribou Herd.	No response is needed for this comment (as it is not related to the Terms of Reference).	
2	Government of Yukon: Monique Chatterton	Government of Yukon #2 - 2015 Land Use and Water Licence Application Package, Volume 2: Project Description Report - Wildlife and Wildlife Habitat, Potential Effects, page 153	Comment ENV Yukon does not believe an adequate literature review on the impacts of road noise and traffic is presented. Recommendation It is recommended: the developer expand upon and reference the literature related to direct and indirect impacts of road development in previously unimpacted areas.	RATIONALE FOR RECOMMENDATION This is a comment on the SCML application package. RECOMMENDATION No change recommended based on this comment	TOR includes information and methodology requirements and descriptions. See also 5.1.5 and 6.1.2 for baseline and effects requirements for noise. If GY has outstanding concerns following review of the DAR, they can follow-up on those later through the Information Request phase of the EA process.
3	Government of Yukon: Monique Chatterton	Government of Yukon #3 - 2015 Land Use and Water Licence Application Package, Volume 3 - Appendices to the Project Description Report (Part 1 of 2) - Section 4.3: Wildlife Mitigation and Monitoring Plan, Woodland Caribou, page 19	Comment ENV Yukon does not believe the mitigations provided cover the full range of options, nor that "monitoring" (i.e. monitor haul trucks and traffic) is a mitigation. Recommendation It is recommended: the developer consider additional mitigations, such as restricting night-time traffic when caribou are present in area, reduce speed at night, larger convoy sizes to substantially reduce periods between disturbances, increase frequency of snow bank cuts.	RATIONALE FOR RECOMMENDATION This is a comment on the SCML application package. RECOMMENDATION No change recommended based on this comment	Project effects are considered under section 6.1.1. If GY has outstanding concerns following review of the DAR, they can follow-up on those later through the Information Request phase of the EA process. The Review Board concurs with GY, however, that monitoring can only be considered as part of mitigation activities if that monitoring leads to concrete and effective mitigation actions.
1	Naha Dehe	General File	Comment Cover Letter, NDDB Chief	The overall issues and concerns raised by the NDDB Chief in the cover	No comment required

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	Dene Band: Christine Wenman		Recommendation	<p>letter have been addressed by SCML through responses to the detailed comments provided by NDDB staff.</p> <p>The letter emphasizes two areas of highest concern:</p> <ol style="list-style-type: none"> 1. The effects of high traffic volume during operations on the Nahanni Caribou Herd, especially in light of the importance of the caribou to the NDDB. The letter stresses the importance of full consideration of cumulative effects and the need for adaptive management in the face of an uncertain future, due to climate change and other pressures. 2. The health, well-being and economic prosperity of Nahanni Butte. SCML recognizes these priorities for NDDB and has recommended to the MVEIRB that they be Key lines of inquiry in the DAR. 	
2	Naha Dehe Dene Band: Christine Wenman	Terms - pg. 4 of draft Terms of Reference	<p>Comment The term "follow-up" is defined as "a program for verifying the accuracy of the environmental assessment of a project and determining the effectiveness of any measures taken to mitigate the adverse environmental effects of the project." This definition should be modified to include socio-cultural and economic effects, all of which are within the scope of the EA and will require follow-up. Such follow-up would include efforts not only to mitigate adverse effects but also to optimize beneficial ones.</p> <p>Recommendation NDDB recommends that the definition of "follow-up" be modified to "A program for verifying the accuracy of the environmental assessment of a project and determining the effectiveness of any measures taken to mitigate the adverse environmental, social, cultural and economic effects of the project and to maximize the social, cultural and economic benefits of the project."</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>The definition of follow-up is consistent with that contained in the MVRMA. This definition needs to be understood in the context of the MVRMA's definition of "impact on the environment" which means any effect on land, water, air or any other component of the environment, as well as on wildlife harvesting, and includes any effect on the social and cultural environment or on heritage resources.</p> <p>SCML believes that the focus of follow-up programs should be on adverse effects and that the effectiveness of measures to maximize benefits is best addressed through Cooperation Agreements between SCML and potentially affected communities and any further SCML-Community Agreements to be developed as part of the Project. These are the mechanisms by which the reviewer's issues are being addressed by SCML.</p> <p>SCML notes that it has formal Cooperation Agreements with both Sahtu and Dehcho communities that cover the life of the Project. These communities have been involved in the HPAR project in every step along the way and will continue to do so.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	<p>The definition of environment already includes this concern. As defined in section 1.4, environmental effects consider social, cultural and economic well-being of Mackenzie Valley residents and communities.</p>

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3	Naha Dehe Dene Band: Christine Wenman	Table 1: Summary of the Scope of the Development by Project Phase - pg. 14 and 15 of draft Terms of Reference	<p>Comment NDDDB has previously communicated strong concern of the risk that vehicle traffic along the corridor will bring invasive plant species to the region. Although NDDDB understands that there are already invasive plant species documented in the area, it is expected that the challenge will be greatly exacerbated by the level of traffic proposed. Preventative maintenance of vehicles is one approach to limiting the spread of invasive species. At the same time, preventative maintenance can reduce the spread of contaminants along the corridor by vehicle traffic.</p> <p>Although NDDDB understands from Selwyn Chihong staff that management of invasive species is the preferred mitigation because of logistical challenges and high costs associated with any sort of "cleaning station" NDDDB feels that it is important that all options are explored through the EA and should be presented in the Developer's Assessment Report with an analysis of risk and cost.</p> <p>Recommendation NDDDB recommends that vehicle maintenance to prevent the spread of contaminants and of invasive species be included in the scope of each project phase from construction, through operations and to closure.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Table 1 is a summary of the Scope of Development by Project Phases. It is not intended to summarize mitigation measures that will be proposed in the DAR. Vehicle maintenance will be considered as a potential mitigation measure in the DAR.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment</p>	Updated TOR includes consideration of invasive species. See ToR sections 6.2.4.1 (6) and 6.2(9).
4	Naha Dehe Dene Band: Christine Wenman	Table 1: Summary of the Scope of the Development by Project Phase - pg. 14 and 15 of draft Terms of Reference	<p>Comment None</p> <p>Recommendation NDDDB recommends that the risk of increased sources of wildfire and a description of wildfire prevention and response be included in all phases of the project.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>SCML agrees that measures will be outlined in the DAR to ensure the safety of workers for wildfires that will include prevention in an Emergency Response Plan.</p> <p>RECOMMENDATION</p> <p>SCML agrees that adding potential for human caused wildfires and prevention in an Emergency Response Plans is appropriate.</p>	Both the party and SCML agree. TOR updated accordingly. See sections 4(3), 5.1.9 (6), 6.1.2.1 (6c).
5	Naha Dehe Dene Band: Christine Wenman	Valued components - Water and sediment quality - pg 16 of the draft Terms of Reference	<p>Comment In table 2, under the valued component "water and sediment quality" the "subjects to consider" are described as "Water quality of major streams and Little Nahanni River; risk of deleterious effects from spills on water and on stream sediment". Major streams is not defined. Water quality has been emphasized by NDDDB Members as a key consideration throughout all phases of the project as it is central to the health of wildlife including but not limited to aquatic species. Water quality should therefore be assessed, protected and monitored widely. Priority should be considered based on baseline assessment of fish habitat and presence, however, the connectivity of water sources must also be considered and documented. A "minor stream" may have seasonal surface or groundwater connectivity.</p> <p>Recommendation NDDDB recommends that subjects to consider for water</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>The HPAR Upgrade Project Description Report (June 2015) (PDR) indicates that water will be withdrawn from only "major creeks" to an upper limit of less than 5% at any time of total stream flow for the temporary construction camps and dust control. SCML has not applied for permits for discharge to any stream.</p> <p>RECOMMENDATION</p> <ol style="list-style-type: none"> 1. SCML agrees with the assessment of streams and creeks in the DAR as summarized in the PDR Section 5.1.8 Temporary construction camps, for water withdrawal. 2. SCML agrees with the assessment of stream, creeks and lakes for water and sediment quality withdrawal during the Operations phase of HPAR. 	SCML's recommendations are inconsistent in the language used. The Board's understanding is that SCML agrees with the assessment summarized in the DPTOR with respect to water withdrawals, and for all project phases. The Review Board agrees with NDDDB that the project assessment should look at the project's potential impact to overall

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			and sediment quality should include water quality of all streams, standing water bodies and groundwater.	3. SCML agrees with the assessment of stream, creeks and lakes for water withdrawal during the Closure phase of HPAR.	water quality, and not focus on water withdrawals. Connectivity and water quality issues are captured in section 6.2.5 (6) and 6.2.3.2.
6	Naha Dehe Dene Band: Christine Wenman	Valued components - Fish and aquatic habitat - pg 16 of the draft Terms of Reference	<p>Comment Subjects to consider for fish and aquatic habitat currently listed include "Arctic grayling and lake trout, spawning and rearing habitat quality; lake and wetland habitat." NDDB notes that at minimum bull trout are likely to be present in the streams of interest and over wintering habitat must also be considered. NDDB further notes that a complete list should be informed by the Traditional Knowledge study with all effected communities.</p> <p>Recommendation NDDB recommends that bull trout be added to the list of subjects to consider within fish and fish habitat and that the list ultimately be expanded to take into account Traditional Ecological Knowledge of NDDB Members as well as First Nations from other effected communities.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Traditional Knowledge</p> <p>The column “Subjects to consider” indicates that this is a preliminary list that may change during the development of the DAR. One of the reasons for this note was SCML’s concern that flexibility be kept in order to incorporate outcomes of further traditional knowledge studies.</p> <p>Bull trout</p> <p>Based on work undertaken by SCML and on literature review of recent papers on bull trout distribution, it is highly unlikely that bull trout occur in the Little Nahanni River or upper Flat River watersheds. Fish surveys were conducted by Parks, DFO and others, 2004-2007 with a primary aim of documentation of bull trout distribution in the South Nahanni watershed. Sites in the Little Nahanni, Steel Creek and Flat Lakes were included. Habitat favourable to bull trout was targeted. The study included literature review and use of local knowledge. Extensive surveys over four years did not find any bull trout upstream of Virginia Falls. The authors consider that the few previous unverified records upstream of Virginia Falls were likely misidentified lake trout. (Babaluk, J. A., Sawatzky, C. D., Watkinson, D. A., Tate, D. P., Mochnacz, N. J., & Reist, J. D. (2015). Distributions of Fish Species within the South Nahanni River Watershed, Northwest Territories. Winnipeg: Canadian Manuscript Report of Fisheries and Aquatic Sciences 3064. Fisheries and Oceans Canada.) None of the reports of past aquatic inventories in the area indicated bull trout as present. They were not detected in the fish and fish habitat survey conducted in 2014 by Triton Environmental Services for SCML (HPAR Upgrade Project Description Report June 2015 section 4.2.6). It is highly improbable that multiple sampling methods across all sample sites would not have detected this species had it been present.</p> <p>Selection of VC fish species</p> <p>Arctic grayling and lake trout were selected for special attention (subjects to consider) as they are considered the species most likely to be affected by the development, based on their presence in or near the streams crossing the road, and the lakes and river near the road, and on their sensitivity, especially during spawning and rearing, to water</p>	<p>The TOR captures TK concerns and research considerations.</p> <p>Regarding what species to include and study, the TOR calls for inclusion of all local and regional fish species. Should SCML's investigation of baseline conditions demonstrate that a species is unlikely to occur in the region or outside of the range of project effects (e.g. downstream of project impacts), this rationale could be provided as justification for its omission from the assessment.</p> <p>Tables have been removed from the TOR.</p>

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				<p>quality degradation and habitat disturbance. Nonetheless, the proposed VC is 'Fish and aquatic habitat'. This is inclusive of all fish species present in at the stream crossings and in the downstream zone of potential influence, and is inclusive of overwintering and rearing habitat.</p> <p>RECOMMENDATION</p> <ol style="list-style-type: none"> 1. Revise the note in the heading of Subjects to consider (Table 2) to read "preliminary list that may change during the development of the DAR, including through incorporation of local and traditional knowledge" 2. Do not add bull trout as a Subject to consider for the Fish and aquatic habitat VC (Table 2). 3. For clarity, revise the Subjects to consider for the VC Fish and aquatic habitat (Table 2) to: "year-round effects on fish species present with particular consideration of Arctic grayling and lake trout; spawning and rearing habitat quality; lake and wetland habitat and connectivity." 	
7	Naha Dehe Dene Band: Christine Wenman	Valued components - Wildlife and wildlife habitat - pg 16 of the draft Terms of Reference	<p>Comment Subjects to consider as currently listed within wildlife and wildlife habitat include northern mountain woodland caribou; moose; grizzly bear; wolverine; breeding birds; cliff nesting raptors; waterfowl. NDDB Members have commented that beaver must be considered as a priority but additional wildlife considerations should include marten, lynx, snowshoe hare, dall sheep and mountain goat. In addition, a complete list should be informed by the Traditional Knowledge study with all effected communities.</p> <p>Recommendation NDDB recommends that beaver, marten, lynx, snowshoe hare, Dall Sheep, and mountain goat be added to the subjects to consider and that the final list be ultimately informed by the Traditional Ecological Knowledge of NDDB Members as well as First Nations from other effected communities.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Traditional Knowledge</p> <p>The column "Subjects to consider" indicates that this is a preliminary list that may change during the development of the DAR. One of the reasons for this note was SCML's concern that flexibility be kept in order to incorporate outcomes of further traditional knowledge studies. Beaver, marten, lynx and snowshoe hare</p> <p>SCML recognizes that it is important to consider the diversity of wildlife species that occur in the project area. The wildlife and wildlife habitat VC should not be construed as being limited to certain species. Nonetheless, it is important to focus the assessment by identifying species as Subjects to consider where the local population might be vulnerable to the road upgrade and/or use and the assessment of potential impact on these species will inform project design and/or operation. In addition, species with conservation concerns are included and moose are included due to their importance in food provision. SCML is reluctant to list additional species as Subjects to consider, as this implies that certain species only are to be considered, one by one (and the expanded species list is different among different reviewers). A more ecosystem-based approach that assesses project effects on ecological processes and structure, addressing habitat connectivity and ecological integrity, rather than on a species by species basis, will provide better direction for mitigation. General measures to mitigate effects on common species with no conservation concern are possible</p>	<p>The TOR captures TK concerns and research considerations. Regarding what species to include and study, the TOR calls for inclusion of all wildlife species potentially affected by the project. The requirement to define specific effects to furbearers is found in section 6.2.6 and, as it relates to harvesting, 6.2.8.</p> <p>Should SCML's investigation of baseline conditions demonstrate that a species is unlikely to occur in the region or outside of the range of project effects (e.g. downstream of project impacts), this rationale could be provided as justification for its omission from the</p>

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				<p>without assessing the effects of the project on each individually. Baseline data will still be presented on additional species (including beaver, for which SCML has good distribution data from field work in 2015).</p> <p>Mountain Goats Mountain goats have been identified in a small centre of habitation in the headwaters of March Creek – a tributary that crosses the HPAR at km 53.3. Mountain goats are known to be sensitive to aircraft over-flight activity. Hence SCML has limited the mountain goat survey efforts to minimize frequency of disturbance to them. Since 2007 biologists conducting the surveys have made 12 mountain goat observations that indicate that there are at least 10 mountain goats utilizing a traditional range here. The closest proximity that the HPAR comes to range used by mountain goats based on these surveys is at the Steel Creek bridge (km 62.7) which is about 4 km northwest of a south-facing escarpment used by the goats. It is unlikely that the goats will be exposed to HPAR activity. They should, however be identified as a subjects to consider and mitigations measures should be included to prevent potential disturbance from other activities such as avalanche control.</p> <p>Mountain Sheep Caribou post-calving surveys during mid-summer serve well to detect mountain sheep as they both occur in the same habitable range during this season. Since 2007 SCML has conducted intensive post-calving surveys of an area of the Selwyn Mountains that includes the HPAR corridor and is 2446 km² in size, utilizing over 60 hours of survey flight time. The surveys detected 2 female mountain sheep transiting through an area about 7.5 km south of XY camp (which is located in the Yukon). Subsequent survey of the area did not locate these sheep. Hence they must have moved on to more suitable range, as they would not have survived a winter in the HPAR area. Mountain sheep are known to inhabit snow-shadow regions and semi-arid climates. Snow conditions in the ungulate study areas likely are too excessive for mountain sheep to occur there. SCML is not aware of any previous surveys or historical records that identify mountain sheep as a component species in this area. Therefore, mountain sheep have not been identified as a Subject to consider in the wildlife and wildlife habitat VC.</p> <p>RECOMMENDATION 1. Revise the note in the heading of Subjects to consider (Table 2) to read “preliminary list that may change during the development of the DAR, including through incorporation of local and traditional</p>	assessment.

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				<p>knowledge”</p> <p>2. Add mountain goats to the list of Subjects to consider for the Wildlife and wildlife habitat VC.</p> <p>3. Do not add Dall’s sheep to this list.</p> <p>4. For clarity, revise the Wildlife and wildlife habitat VC to read: “Year-round effects on wildlife habitat and wildlife present with particular consideration of Northern mountain woodland caribou (Nahanni Caribou Herd), grizzly bear, wolverine, moose, song birds, cliff nesting raptors and waterfowl, and of effects of invasive species”</p>	
8	Naha Dehe Dene Band: Christine Wenman	Valued components - Species at Risk - pg 16 of the draft Terms of Reference	<p>Comment Currently, the draft Terms of Reference lists subjects to consider within Species at risk as "bats and other mammals; bird species at risk." NWT listings of Species at Risk continue to expand as species are assessed, a work in progress. Species at Risk considerations should therefore include NWT listings and list of species to be assessed, federal SARA listings and COSEWIC listings. Species at risk are not limited to bats, other mammals and bird species but also include listed fish, insects, amphibians and plants.</p> <p>Recommendation NDDDB recommends that considerations to evaluate potential threats to Species at risk include NWT Species at Risk, NWT species to be assessed, federal SARA and COSEWIC listed species. NDDDB further recommends that fish, insects, amphibians and plants be included in subjects to consider where they are listed as Species at Risk and where they are known to or found to exist in the project region.</p>	<p>The HPAR Upgrade Project Description Report (June 2015) (PDR) contains a listing of species at risk that includes all those that are in the area and are assessed as at risk by COSEWIC, SARA and the GNWT (see section 4.2.9 of the PDR). While to SCML’s knowledge there are no listed plants, fish or insects in the area, other species will be added if their presence in the area is confirmed. The wording was not intended to be restrictive.</p> <p>RECOMMENDATION</p> <p>For clarity, the wording could be revised to “species assigned a special conservation status by COSEWIC or SARA or assigned a rank other than secure through the NWT General Status Ranks and confirmed to be present in the project vicinity.”</p>	<p>TOR has been updated to reflect these concerns. See section 6.2.7.</p> <p>Tables referenced were removed from the TOR.</p>
9	Naha Dehe Dene Band: Christine Wenman	Valued components - Ecosystem Components - pg 16 of the draft Terms of Reference	<p>Comment The risk of invasive species to native plant and wildlife has been consistently raised as a priority area by NDDDB Members.</p> <p>Recommendation NDDDB recommends that within all valued components under the 'ecosystem components category' subjects to consider include effects of invasive species.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Invasive species is included as a Subject to consider for vegetation. SCML does not see a need to add consideration of invasive species to the Species at Risk and fish and aquatic habitat sections. However, it is a good addition to the wildlife and wildlife habitat component, as changes in vegetation could have an impact on plant-eating wildlife.</p> <p>RECOMMENDATION</p> <p>Add “effects of invasive species” as a Subject to consider in the wildlife and wildlife habitat VC. (the recommended new version, incorporating other changes, would be “Year-round effects on wildlife habitat and wildlife present with particular consideration of Northern mountain woodland caribou (Nahanni Caribou Herd), grizzly bear, wolverine, moose, song birds, cliff nesting raptors and waterfowl, and of effects of invasive species”)</p>	<p>Invasive species captured in TOR in both vegetation and wildlife sections. See sections 6.2.4 and 6.2.6.</p>
10	Naha Dehe Dene Band: Christine	Valued components - Traditional land	<p>Comment NDDDB notes that Traditional land uses and harvesting practices hold enormous significance to the wellbeing of the NDDDB community. Subjects to consider include past and current traditional use</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>SCML agrees with the reviewer’s comment.</p>	<p>TOR updated. See section 6.2.8.</p>

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	Wenman	use, harvesting - pg. 16 of the draft Terms of Reference	but they must also consider potential future use. The NDDDB wellness plan, for instance, places an emphasis on renewing, strengthening and growing connections to traditional land use and cultural practices. Land and harvesting access remains an Aboriginal right now and in the future regardless of current practice. Recommendation NDDDB requests that subjects to consider under Traditional land use, harvesting be modified to: "Past, current and potential future traditional use."	RECOMMENDATION The Terms of Reference should give consideration to the effects of the project on potential future traditional use of the area.	
11	Naha Dehe Dene Band: Christine Wenman	Valued components - Potentially affected communities - pg 16 of the draft Terms of Reference	Comment Currently, a very broad range of topics are clustered within the valued component - "potentially affected communities" NDDDB recommends that in order to ensure that this topic is covered in adequate detail, this valued component be broken down into additional discrete categories. This will provide an opportunity for subjects to consider to be applied to each individual category and will help to ensure that the environmental assessment provides an adequate review of each topic including a detailed evaluation of adequate responses. Recommendation The valued component "potentially affected communities" should be listed as five separate valued components. These should include: 1) Potentially affected communities - economic benefit and well-being 2) Potentially affected communities - distribution of benefits 3) Potential affected communities - training and skill development 4) Potential affected communities - community wellness and 5) Potential affected communities - community confidence and influence over project	RATIONALE FOR RECOMMENDATION SCML considers the benefits and effects of the project on communities as a Key line of inquiry. This will ensure that a comprehensive analysis is undertaken. SCML intends to complete the analysis of the effects of the project on employment and contracting opportunities; wage and salary income; training and skills development; business opportunities and overall community well-being as separate and distinct evaluations as described in Section 7.13 of the Developer's Proposed Terms of Reference. This scope addresses the issues 1, 3 and 4 identified by the reviewer. The Cooperation Agreements between SCML and potentially affected communities cover issue 2, distribution of benefits, and this subject should be looked at through the agreements so that confidentiality is respected. Regarding reviewer's issue 5, SCML does not consider "Community confidence and influence over the project" as a VC. These issues are best addressed through provisions in the Cooperation Agreements and any further SCML-Community Agreements developed as part of the Project. RECOMMENDATION The identification of separate VCs as recommended is not considered necessary.	Updated TOR has an increased focus on identifying the existing economic and community wellness, and investigating project effects on these topics. Sees section 5.2.1 and 6.1.4. The Review Board agrees that community confidence and influence over the project are not items for the TOR. If communities are not satisfied with the DAR and their engagement in SCML's project planning, they will have an opportunity to express that later in the EA process.
12	Naha Dehe Dene Band: Christine Wenman	Valued components - Potentially affected communities - pg 16 of the draft Terms of Reference	Comment The proposed first category "potentially affected communities - economic benefit and well-being includes those topics already listed in the draft "employment and contracting opportunities; wage and salary income; business opportunities" but should also include a broader analysis of barriers to accessing such opportunities. Both NDDDB experience and experiences of First Nations throughout NWT and elsewhere have shown that though opportunities for business contracts and Band Member employment may exist, targets are rarely achieved, a challenge that will need to be considered in detail so that it can be adequately mitigated. Work will need to be undertaken in order to identify and set appropriate targets, analyse what barriers there may be	RATIONALE FOR RECOMMENDATION: SCML acknowledges the reviewer's comments and understand the issues that they are addressing. As outlined in Section 7.13 SCML is committed to maximizing benefits to First Nations. Section 7.13 of the Developer's Proposed Terms of Reference requires that SCML not only consider employment and contracting opportunities; wage and salary income; business opportunities; and overall effects on community well-being, but also requires SCML to describe current or proposed socio-economic initiatives or agreements aimed at maximizing potential benefits, such as measures, plans and commitments for maximizing local and Aboriginal employment,	The updated TOR for the Human Environment captures the concerns and perspectives of NDDDB and SCML. Some of the concerns described by NDDDB relate to mitigation measures that may emerge from the DAR or later in the EA process. See sections 5.2 and 6.1.4.

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			<p>to achieving the targets, reducing those barriers and tracking success towards meeting targets. For the purpose of the EA scope, success from other projects in creating employment and business opportunities should be studied to ensure assessment and application of best practice to the HPAR project. The type of employment and business opportunity will also need to be described in detail and compared with local capacity and individual goals. For instance, in relation to the EA conducted for Canadian Zinc's winter road access to the proposed Prairie Creek Mine, a human resource and community economic development survey was conducted. This provided detailed baseline information not only about current employment levels but also about NDDB Members' employment and training goals. Experiences elsewhere have demonstrated some limitations to employment and salary advancement on the job, such that on-the-job training has been repeatedly emphasized as a priority by NDDB Members. NDDB Members have discussed that they have observed in other NWT resource development projects that business and contract opportunities are supported by investments of capital equipment but that due to the boom and bust nature of mining, there are few to no opportunities to mobilize the equipment for other business opportunities if the commodity price in question lags for a time. Resiliency, sustainability and diversity of business opportunities therefore needs to be explored in detail. Finally, several NDDB members have also voiced concern that the job opportunities created for the HPAR project are likely to exist outside of Nahanni Butte, encouraging more people to leave the community and creating a negative cycle of depopulation and community fragmentation. Examining this effect and working with NDDB members as well as examining best practice elsewhere to identify mitigation measures will be important. Recommendation NDDB recommends that subjects to consider for potentially affected communities - economic benefit and well-being include: employment and contracting opportunities; wage and salary income; business opportunities; analysis of barriers to accessing opportunities; and options to overcome barriers including best-practice elsewhere; quantifying, tracking and achieving targets for economic benefit and well-being; on-the-job learning opportunities; opportunities for workplace advancement; sustainability and resiliency of business development opportunities, mitigation options to encourage Members to remain living in Nahanni Butte such as direct transportation to the site and work opportunities created in place in Nahanni Butte.</p>	<p>contracting and business activity, including any proposed training, skills development or procurement policies and programs. These requirements are sufficiently broad in scope to allow SCML to address the recommendations of the reviewer.</p> <p>The experiences of First Nations and best industry practices regarding socio-economic impact management and ways of overcoming barriers to First Nation's access to project-related opportunities will be considered in the design of SCML's socio-economic initiatives. The Cooperation Agreements between SCML and potentially affected communities and further SCML-Community Agreements to be developed as part of the Project are the mechanisms by which the reviewer's issues are being addressed by SCML.</p> <p>SCML notes that it has formal Cooperation Agreements with both Sahtu and Dehcho communities that cover the life of the Project. These communities have been involved in the HPAR project in every step along the way and will continue to be involved.</p> <p>RECOMMENDATION: No change recommended based on this comment.</p>	
13	Naha Dehe	Valued	Comment Distribution of benefits is an important component of	RATIONALE FOR RECOMMENDATION	The updated TOR includes a

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	Dene Band: Christine Wenman	components - Potentially affected communities - pg 16 of the draft Terms of Reference	community well-being not yet specifically identified within the draft Terms of Reference document. Experiences elsewhere have demonstrated that benefits to mining operations are not always distributed equitably within a community and particular attention may be required to work with more vulnerable populations to assess how community well-being can be broadly considered within a project. NDDDB recommends that a socio-cultural and economic study be prepared as part of the environmental assessment project that includes primary, community-based research to facilitate such dialogues. Recommendation NDDDB recommends that subjects to consider for potentially affected communities - distribution of benefits - include how vulnerable groups within communities may be affected (including exclusion from benefits); further investigation into best practice elsewhere; and primary community based research specifically targeting vulnerable groups including women.	SCML acknowledges the reviewer's comments and understand the issues that they are addressing. The experiences of First Nations and best industry practices regarding socio-economic impact management are not issues to be addressed in a Terms of Reference. Rather, they will be considered in the design of SCML's socio-economic initiatives. The Cooperation Agreements between SCML and potentially affected communities and any further SCML-Community Agreements to be developed as part of the Project are the mechanisms by which the reviewer's issues are being addressed by SCML. SCML notes that it has formal Cooperation Agreements with both Sahtu and Dehcho communities that cover the life of the Project. These communities have been involved in the HPAR project in every step along the way and will continue to be involved. RECOMMENDATION: No change recommended based on this comment.	more detailed analysis of vulnerable groups in communities, including those unlikely to benefit from the project. See sections 5.2.1.2 (3), 5.2.1.5 (4) and 6.1.4.2 (4) and 6.1.4.6 (2).
14	Naha Dehe Dene Band: Christine Wenman	Valued components - Potentially affected communities - pg 16 of the draft Terms of Reference	Comment As previously mentioned, it is recommended that a separate valued component of potential affected communities include training and skills development. Recommendation Potentially affected communities - training and skills development can include under subjects to consider: current Band Member training levels; current training goals; types of job opportunities available or created; application of skillsets to other job opportunities to ensure resiliency is built outside of boom and bust mining cycles.	RATIONALE FOR RECOMMENDATION SCML acknowledges the reviewer's comments and understand the issues that they are addressing. As described in Section 7.13 of the Developer's Proposed Terms of Reference, SCML intends to describe current or proposed socio-economic initiatives or agreements aimed at maximizing potential benefits, such as measures, plans and commitments for maximizing local and Aboriginal employment, contracting and business activity, including any proposed training, skills development or procurement policies and programs. The Cooperation Agreements between SCML and potentially affected communities and any further SCML-Community Agreements to be developed as part of the Project are the mechanisms by which the reviewer's issues are being addressed by SCML. SCML notes that it has formal Cooperation Agreements with both Sahtu and Dehcho communities that cover the life of the Project. These communities have been involved in the HPAR project in every step along the way and will continue to be involved. RECOMMENDATION: No change recommended based on this comment.	Training requirements are captured in the TOR. See sections 5.2.1.1 and 6.4.1.2.
15	Naha Dehe Dene Band: Christine Wenman	Valued components - Potentially affected communities - pg 16 of the	Comment Community wellness is described as a Subject to consider within potentially affected communities and is described in the terms (pg.4) as "The status of the physical, emotional, social, cultural and economic well-being of a community. That state of community wellness depends on the health and well-being of every aspect of a community, the individual, families etc." The definition itself provides an overview of	RATIONALE FOR RECOMMENDATION SCML acknowledges the reviewer's comments and understand the issues that they are addressing. SCML does not consider community wellness as a VC, but rather as a desired outcome that is shared by SCML and potentially affected communities. Community wellness is considered to be a Subject to consider as a distinct and separate	The Review Board has included community well-being considerations as a Key Line of Inquiry in the TOR. See sections 5.2.1.1 and 6.1.4.2.

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		draft Terms of Reference	the subjects to consider within that valued component. Recommendation NDDDB recommends that community wellness be identified as a stand alone valued component with subjects to consider being: the physical, emotional, social, cultural and economic well-being of the community. While some information will exist as aggregate at a regional level and some limited work on the topic will exist at the community level, investigation of the valued component is likely to require further community based work.	analysis under the VC “Potentially Affected Communities”. RECOMMENDATION The identification of a separate VC as recommended is not considered necessary. No change recommended based on this comment.	
16	Naha Dehe Dene Band: Christine Wenman	Valued components - Potentially affected communities - pg 16 of the draft Terms of Reference	Comment NDDDB Members speak a great deal about the need to feel confident that the project is being implemented according to the highest possible standards in order to protect the environment and maximize community benefits. Operationally, some have suggested full-time on-site community monitors be required. Recommendation NDDDB recommends that community confidence and influence over project be considered a stand alone valued component. Topics to consider should include: community role in monitoring; NDDDB Member training in monitoring; independence of monitoring; accessibility and transparency of monitoring results and reporting; types of monitoring to foster NDDDB participation; standards for plain language and visual summaries of reports; frequency of communications; community roles in and/or influence over decision-making.	RATIONALE FOR RECOMMENDATION SCML acknowledges the reviewer’s comments and understand the issues that they are addressing. SCML does not consider “Community confidence and influence over the project” as a VC. The experiences of First Nations and best industry practices regarding socio-economic impact management are not issues to be addressed in a Terms of Reference. Rather, they are best considered in the design of SCML’s socio-economic initiatives. The Cooperation Agreements between SCML and potentially affected communities and any further SCML-Community Agreements to be developed as part of the Project are the mechanisms by which the reviewer’s issues are being addressed by SCML. SCML notes that it has formal Cooperation Agreements with both Sahtu and Dehcho communities that cover the life of the Project. These communities have been involved in the HPAR project in every step along the way and will continue to be involved. RECOMMENDATION The identification of separate VCs as recommended is not considered necessary.	Overly prescriptive for the ToR. This type of information can be raised during the EA if outstanding concerns exist after review of the DAR.
17	Naha Dehe Dene Band: Christine Wenman	Key lines of inquiry, pg. 17	Comment NDDDB is generally supportive of the key lines of inquiry proposed by the project proponent and notes that the proponent had consulted with NDDDB prior to drafting the Terms of Reference. Overall, NDDDB recognizes their concerns reflected in the draft document. However, we have some recommendations to ensure that the key lines of inquiry fully capture the concerns NDDDB had expressed. For the first Key line of inquiry - Nahanni Caribou Herd, NDDDB agrees that the herd is the primary one likely to be effected. However, it should also be acknowledged and emphasized within the draft terms of reference that the herds are not discrete entities but rather their occasional interaction with other herds ensures their genetic diversity and population resilience. Recommendation NDDDB recommends that the proposed Key line of inquiry - Nahanni Caribou Herd include "effects on interactions with	RATIONALE FOR RECOMMENDATION SCML plans to focus of the Key line of inquiry on the Nahanni Caribou Herd and on measures that can be taken to minimize impacts. Caribou populations experience recurrent fluctuations over years. Their numbers go up and down naturally. During high densities, there may be some interchange of animals between herds – likely young males. However, DNA studies in Yukon and NWT have found that the herds are relatively genetically distinct and conform well to the herd designation made by ecological observations. A perfect management model would allow for long-term recurrent fluctuation such that human activity does not cause extreme low numbers nor prevent population highs so that herds can evolve as they should. SCML therefore recognizes the role interaction with other herds may play in long-term caribou population dynamics, but also believes that addressing this topic in any practical,	The Review Board recognizes the value of caribou to the people of the Northwest Territories, and is aware of the stresses and cumulative effects affecting many of these herds. The TOR will summarize the potential for "effects on interactions with other herds" in its analysis. See section 6.1.1.2 (3) As the TOR outlines, SCML's investigation of wildlife effects must consider both

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			other herds"	useful way is beyond the temporal and geographic scope of this project. RECOMMENDATION Do not add “effects on interactions with other herds” to the Key line of inquiry.	scientific and Traditional Knowledge evidence.
18	Naha Dehe Dene Band: Christine Wenman	Key lines of inquiry, pg. 17	Comment NDDDB appreciates that benefits and effects on communities is a Key line of inquiry. In order to ensure that all relevant topics are covered, the separate valued components previously discussed should be described in detail within the assessment. Recommendation NDDDB recommends that the Key line of inquiry - benefits and effects on communities - include those recommendations for valued components previously described recommended within potentially affected communities.	RATIONALE FOR RECOMMENDATION SCML acknowledges the reviewer’s comments and understand the issues that they are addressing. The number and organization of VCs to be addressed in the DAR does not limit the assessment in terms of scope nor level of detail. As noted previously, many of the issues raised by reviewers are regarding best industry practices and socio-economic impact management that are not issues to be addressed in a Terms of Reference as VCs. As described in Section 7.13 of the Developer’s Proposed Terms of Reference, SCML intends to describe current or proposed socio-economic initiatives or agreements aimed at maximizing potential benefits, such as measures, plans and commitments for maximizing local and Aboriginal employment, contracting and business activity, including any proposed training, skills development or procurement policies and programs. The Cooperation Agreements between SCML and potentially affected communities and any further SCML-Community Agreements to be developed as part of the Project are the mechanisms by which the reviewer’s issues are being addressed by SCML. SCML notes that it has formal Cooperation Agreements with both Sahtu and Dehcho communities that cover the life of the Project. These communities have been involved in the HPAR project in every step along the way and will continue to be involved. RECOMMENDATION The identification of separate VCs as recommended is not considered necessary.	The Review Board has included community well-being considerations as a Key Line of Inquiry in the TOR. See sections 5.2.1.1 and 6.1.4.2.
19	Naha Dehe Dene Band: Christine Wenman	Key lines of inquiry, pg. 17	Comment A central concern for NDDDB Members is water and the potential effects of the project on water quality and fish habitat. NDDDB appreciates that the Key line of inquiry "accidents and malfunctions" covers one important route by which water quality could be jeopardized. However, erosion and sediment control throughout the construction, operation and closure of the project will be critical to ensuring that fish habitats are not harmed. Recommendation NDDDB recommends that water and sediment and fish and aquatic habitat be moved from subjects of note to key lines of inquiry.	RATIONALE FOR RECOMMENDATION SCML supports the practice of the Board to scope the assessment to key lines of inquiry that require greater emphasis and substantive analysis. It is SCML’s understanding that the practice of differentiating “Key Lines of Inquiry” from “Subjects of Note” does not alter the need to provide sufficient evidence to support a determination of significance of adverse environmental effects. SCML has scoped the assessment to reflect the fact that there is existing infrastructure in place along the HPAR route and the project works and activities that might affect water, fish and fish habitat (apart from	Effects of the project on water and sediment are addressed in the TOR under 6.2.3, as well as in conjunction with 6.1.2 Accidents and Malfunctions.

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				potential spills) have mostly been successfully undertaken (i.e., bridges and most culverts are in place and being maintained) and that the project only involves minor alterations of drainage and culvert extensions that are not likely to result in adverse effects that warrant categorization as a “Key line of inquiry”. RECOMMENDATION No change recommended based on this comment.	
20	Naha Dehe Dene Band: Christine Wenman	Temporal scope - potentially affected communities - pg. 22	Comment None Recommendation NDDDB recommends that the temporal scope include positive long-term legacies after mine closure.	RATIONALE FOR RECOMMENDATION The temporal scope for the VC “Potentially Affected Communities” addresses the long term positive effects associated with the HPAR project (rather than the mine) in the post closure. As the project is limited to the upgraded road and as noted in Table 5, the long term positive effects are largely related to improved access, depending upon the decisions made about the road post-closure. As such, the positive long-term legacy of the HPAR will be examined in the context of access issues. RECOMMENDATION No change recommended based on this comment.	See section 3.2.8 of TOR for Temporal Scope requirements. The road construction will have short-term employment, ongoing maintenance and operations opportunities. The updated TOR considers economic and community wellness values. NDDDB will also have the opportunity in the EA process to question the DAR with respect to specific opportunities or benefits. NDDDB is encouraged to consider the refined scope in the updated TOR and weigh their concerns on impacts and opportunities associated with the road building project versus a future assessment of the mine.
21	Naha Dehe Dene Band: Christine Wenman	Temporal scope - potentially affected communities - pg 22.	Comment NDDDB has been working for the last several years in cooperation with several mining companies in its Territory. The experience has made NDDDB Members and leadership all too familiar with the boom and bust nature of resource extraction industries and the resulting risk that is passed on by the companies to the community. For instance, in two of these three cases, outstanding financial obligations are now owed to NDDDB and overdue from the company. There needs to be substantial consideration of risk in the environmental assessment and how First Nation communities, such as Nahanni Butte, and also including	RATIONALE FOR RECOMMENDATION Risks to participating parties can only be evaluated by the parties themselves and not be a project proponent. SCML does not consider “risk to participating parties” as subject that requires assessment in the DAR by SCML. Issues such “risks to participating parties” are best addressed through Cooperation Agreements between SCML and potentially affected communities and any further SCML-Community Agreements to be developed as part of the Project. These are the mechanisms by which	Not applicable to TOR. The Board does not provide participant funding. The NDDDB should direct its recommendation to the GNWT or Federal government.

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			<p>other effected and regional communities, can be protected from risk so that they do not disproportionately carry it when compared to Canada as whole. NDDDB is weary of committing time, resources, money and energy to a project that is potentially highly volatile and that could ultimately result in the Band incurring costs for which it has no recourse for reimbursement.</p> <p>Recommendation NDDDB recommends that the EA include consideration of risk to participating Parties and provides options for mitigating that risk. NDDDB further recommends that the Mackenzie Valley Impact Review Board provide intervener funding for the duration of this Environmental Assessment.</p>	<p>the reviewer's issues are being addressed by SCML.</p> <p>SCML notes that it has formal Cooperation Agreements with both Sahtu and Dehcho communities that cover the life of the Project. These communities have been involved in the HPAR project in every step along the way and will continue to be involved.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment. Decisions regarding intervener funding by the MVEIRB are those of the Board and not SCML. SCML offers no comment or recommendations at this time.</p>	
22	Naha Dehe Dene Band: Christine Wenman	Water quality and quantity - pg. 24	<p>Comment None</p> <p>Recommendation Recommend that descriptions provided by SCML regarding water quality and quantity include description of flood risks used in engineering standards; description of bridges and culverts; flow rates including seasonal variation.</p>	SCML agrees with this comment.	Both the party and SCML agree. See section 3.1.1.
23	Naha Dehe Dene Band: Christine Wenman	Fish and aquatic habitat - pg. 24	<p>Comment None</p> <p>Recommendation Recommend that 4.1.7 include a description of minimum flow needs for each river with fish and fish habitat.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>As the operational component of this project entails traffic movement only, there isn't a need to divert stream water. Water withdrawals will be very limited. The project requires only very small amounts of water for the temporary construction camps and then for dust control during operations. SCML has committed to drawing less than 5% of instantaneous flows. As such the project will have minimal impact on flows.</p> <p>Minimum flow requirement determination is typically only contemplated when significant water diversion or consumption is a component of the construction or operational design of a project. Minor water withdrawals for construction camp use and dust suppression will be regulated by a water licence and will be from larger watercourses where flow reduction would be negligible, as discussed in the HPAR Upgrade Project Description Report (June 2015) and water licence application.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	If the project were predicted to affect flow or fish passage, that impact would need be investigated for mitigation measures. See section 6.2.5 (3,5).
24	Naha Dehe Dene Band: Christine Wenman	Environmental and geological events that may affect the project - pg. 25	<p>Comment None</p> <p>Recommendation Recommend that forest fires be included and that forest fires, floods, landslides and extreme precipitation events are informed by an analysis of predicted climate change in the region (including both predictions and uncertainty related to precipitation and seasonal temperatures)</p>	SCML agrees with the reviewer's comment.	Climate change considerations are included in TOR. See sections 4(3), 5.1.9 (6), 6.1.2.1 (6c).

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25	Naha Dehe Dene Band: Christine Wenman	Human environment information requirements - pg. 25	Comment The current draft terms of reference suggests that "SCML will develop the socio-economic baseline using existing regional data relevant to the communities that would be most affected by the Project development , in the Sahtú and Dehcho, where relevant." NDDDB recommends that existing regional and community data be compiled and analysed for gaps but recommends that based on a gaps analysis, additional primary research will likely be required in order to develop a constructive baseline. Community level detail will be required in order for any meaningful identification of targets and tracking of achievement. Recommendation NDDDB recommends that existing data be supplemented by primary, community based research where required to achieve meaningful community baseline data that can be tracked and reported on.	RATIONALE FOR RECOMMENDATION SCML acknowledges that some primary research may be required to fill gaps in knowledge related to Key Lines of Inquiry. However, primary research may not be required in other instances where existing available data is considered sufficient to address Subjects of Note. RECOMMENDATION The Terms of Reference should include a provision that SCML should augment existing and available secondary source information with primary research as necessary to fill in gaps in knowledge related to Key Lines of inquiry.	The TOR has instructions for the consideration of primary information sources. See sections 5, 5.2 and 6.1.4.
26	Naha Dehe Dene Band: Christine Wenman	Education, training, and skills - pg. 26	Comment The current draft terms of reference suggests that "the developer will provide a description of the existing types and levels of relevant skills and education in the communities that may be affected by the project. SCML will provide information drawn from the most current statistical records on the level of education achieved by community members and /or NWT residents, along with other information that relate to training and skills (e.g. educational facilities, services and programs)." NDDDB recommends that existing regional and community data be compiled and analysed for gaps but recommends that based on a gaps analysis, additional primary research will likely be required in order to develop a constructive baseline. Community level detail will be required in order for any meaningful identification of targets and tracking of achievement. Recommendation NDDDB recommends that existing data be supplemented by primary, community based research where required to achieve meaningful community baseline data that can be tracked and reported on.	RATIONALE FOR RECOMMENDATION SCML acknowledges that some primary research may be required to fill gaps in knowledge related to Key Lines of Inquiry. However, primary research may not be required in other instances where existing available data is considered sufficient to address Subjects of Note. RECOMMENDATION The Terms of Reference should include a provision that SCML should augment existing and available secondary source information with primary research as necessary to fill in gaps in knowledge related to Key Lines of inquiry.	The TOR has instructions for the consideration of primary information sources. See sections 5, 5.2 and 6.1.4.
27	Naha Dehe Dene Band: Christine Wenman	Regional and local economies - pg.27	Comment NDDDB again notes that "existing data relevant to the communities" may not be available with sufficient community detail. Recommendation NDDDB recommends that existing data be supplemented by primary, community based research where required to achieve meaningful community baseline data that can be tracked and reported on.	RATIONALE FOR RECOMMENDATION SCML acknowledges that some primary research may be required to fill gaps in knowledge related to Key Lines of Inquiry. However, primary research may not be required in other instances where existing available data is considered sufficient to address Subjects of Note. RECOMMENDATION The Terms of Reference should include a provision that SCML should augment existing and available secondary source information with primary research as necessary to fill in gaps in knowledge related to Key Lines of inquiry.	The TOR has instructions for the consideration of primary information sources. See sections 5, 5.2 and 6.1.4.

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28	Naha Dehe Dene Band: Christine Wenman	Human health and well-being - pg. 27-28	<p>Comment NDDDB again notes that "existing data relevant to the communities" may not be available with sufficient community detail. Community well-being should include at minimum the valued components previously described within comments referring to potentially affected communities.</p> <p>Recommendation NDDDB recommends that existing data be supplemented by primary, community based research where required to achieve meaningful community baseline data that can be tracked and reported on. NDDDB recommends that human health and well-being should include, at minimum, those topics previously recommended within the valued components table.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>SCML acknowledges that some primary research may be required to fill gaps in knowledge related to Key Lines of Inquiry. However, primary research may not be required in other instances where existing available data is considered sufficient to address Subjects of Note.</p> <p>RECOMMENDATION</p> <p>The Terms of Reference should include a provision that SCML should augment existing and available secondary source information with primary research as necessary to fill in gaps in knowledge related to Key Lines of inquiry.</p>	The TOR has instructions for the consideration of primary information sources. See sections 5, 5.2 and 6.1.4. Relevant human health and well-being sections have been updated; see sections 5.2, 6.1.4, 6.2.8-12.
29	Naha Dehe Dene Band: Christine Wenman	Project description outline for Construction Phase - workforce, payroll and purchasing - pg. 31	<p>Comment None</p> <p>Recommendation Recommend including cultural sensitivity and accommodations; community role in monitoring; employment and salary advancement within subjects to consider.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>SCML considers cultural sensitivity and accommodations; community role in monitoring; employment and salary advancement as issues best addressed through provisions in SCML-Community Agreements potentially developed as part of the Project. SCML notes that it has formal Cooperation Agreements with both Sahtu and Dehcho communities that cover the life of the Project. These communities have been involved in the HPAR project in every step along the way and will continue to do so.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	<p>The HPAR project will have road have short-term employment opportunities for construction and longer, but more limited, ongoing maintenance and operations opportunities. The updated TOR consider economic and community wellness values. NDDDB will also have the opportunity in the EA process to question the developer's project assessment report specific opportunities or benefits.</p> <p>NDDDB is encouraged to consider the refined scope in the updated TOR and weigh their concerns on impacts and opportunities associated with the road building project versus a future assessment of the mine.</p>
30	Naha Dehe Dene Band: Christine Wenman	Table 7 Project Description for Operations Phase - Hauling zinc and lead concentrates	<p>Comment None</p> <p>Recommendation Please include a detailed description of the concentrates that are anticipated to be hauled.</p>	SCML agrees with this comment.	See sections 6.1.2.1, 6.2.3 and 7.

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31	Naha Dehe Dene Band: Christine Wenman	Table 7 Project Description for Operations Phase - Road maintenance	Comment None Recommendation Please include water withdrawals used for dust control or other operational considerations.	SCML agrees with this comment.	Updated TOR includes description and assessment of water withdrawals. See Table 1 and 6.2.3.1
32	Naha Dehe Dene Band: Christine Wenman	5.3 Road Design Considerations	Comment NDDB remains very concerned about the anticipated traffic volume in a critical wildlife habitat corridor. Recommendation Recommend that wildlife road crossings be considered in detail.	SCML agrees with this comment.	This component is captured in the wildlife and wildlife habitat section, 6.2.6.
33	Naha Dehe Dene Band: Christine Wenman	7.1.1 Nahanni Caribou Herd	Comment Within 7.1.1.2 Direct and indirect alteration of habitat, including disturbance, the Proponent proposes to examine effects of the HPAR on caribou movement and patterns. As previously mentioned, effects on interaction with other caribou herds will need to be considered. Recommendation Recommend that effects on the Nahanni Herd's interaction with other herds be specifically examined.	As the reviewer noted, this comment/recommendation was also provided page 17, Key lines of inquiry – the rationale for the recommendation is repeated here. RATIONALE FOR RECOMMENDATION SCML plans to focus of the Key line of inquiry on the Nahanni Caribou Herd and on measures that can be taken to minimize impacts. Caribou populations experience recurrent fluctuations over years. Their numbers go up and down naturally. During high densities, there may be some interchange of animals between herds – likely young males. However, DNA studies in Yukon and NWT have found that the herds are relatively genetically distinct and conform well to the herd designation made by ecological observations. A perfect management model would allow for long-term recurrent fluctuation such that human activity does not cause extreme low numbers nor prevent population highs so that herds can evolve as they should. SCML therefore recognizes the role interaction with other herds may play in long-term caribou population dynamics, but also believes that addressing this topic in any practical, useful way is beyond the temporal and geographic scope of this project. RECOMMENDATION No changes are recommended based on this comment.	The Review Board recognizes the value of caribou to the people of the Northwest Territories, and is aware of the stresses and cumulative effects affecting many of these herds. The TOR will summarize the potential for "effects on interactions with other herds" in its analysis. As the TOR outlines, SCML's investigation of wildlife effects must consider both scientific and Traditional Knowledge evidence.
34	Naha Dehe Dene Band: Christine Wenman	7.1.1 Nahanni Caribou Herd	Comment Dramatic climate change effects are being documented in the NWT. Though incomplete, knowledge about these effects on caribou are increasing. Climate change effects on caribou can include increased disease and parasite loads, changes to accessibility of food and changes in predation. Research has documented that melting snow packs in the high mountains are eliminating critical areas for mountain caribou to bed down and find relief from warble flies. As climate change effects continue, adaptive management may be necessary to ensure that caribou herds are protected. Recommendation Recommend that the scope of the EA regarding the Nahanni Caribou Herd place a strong emphasis in embedding known	RATIONALE FOR RECOMMENDATION This is a good point that should be included. Adaptive management for climate change in overall herd management is beyond the mandate of SCML, but assessment of long-term potential impacts should take climate change effects into consideration. This may prove difficult to quantify, but changing baseline conditions should be included as part of the context of the assessment of effects on caribou and as part of SCML's adaptive management approach in the Wildlife Mitigation and Monitoring Plan. RECOMMENDATION	Climate change considerations are included in TOR. See sections 4(3), 5.1.9 (6), 6.1.2.1 (6c).

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			knowledge about the herd within climate change predictions and predictions of future climate effects on caribou. Recommend that adaptive management options for the Caribou Herd in the face of cumulative effects, including climate change, be explored in detail.	In Section 7.1.1, add to the end of the second-last paragraph: “Effects of the project on caribou will be considered in the context of climate change.”	
35	Naha Dehe Dene Band: Christine Wenman	8.2 Alternatives within the Project	Comment NDDDB remains concerned about the anticipated traffic volume in a critical wildlife habitat corridor. Adequate mitigation of impacts to wildlife, particularly the Nahanni Caribou Herd, may require a description of scenarios that include alternative transportation models as already listed elsewhere in the draft TOR, but also a consideration of seasonal decreases in transportation volume. These scenarios should be described in alternatives within the project. Recommendation NDDDB recommends that alternative summer/ fall volume scenarios be examined in detail as alternatives to the project in order to protect the Nahanni Caribou Herd.	RATIONALE FOR RECOMMENDATION This will be considered in the Alternatives Assessment (Section 8.2- Alternatives within the Project and 8.3-Alternatives Analysis). RECOMMENDATION No change recommended based on this comment.	See section 6.2.12 (3).
36	Naha Dehe Dene Band: Christine Wenman	9 Assessment of Cumulative Effects	Comment Existing leases accessible or potentially accessible (by road extensions) on both the NWT and Yukon sides of the HPAR access road and the Nahanni Range Road should be examined as these could result in cumulative development in the future. Please also provide a detailed description of the Selwyn-Chihong Mine itself as the most obvious cumulative impact is the effect not only of the access road but of the Project in its entirety. The possible effects of the full project should be described in detail with regard to the key lines of inquiry, particularly the Nahanni Caribou Herd. Recommendation Please include a description of all existing leases that may be accessed not only by the Howards Pass Access Road but also by the Nahanni Range Road. Please provide detail of the full proposed project (including the Selwyn-Chihong lead-zinc mine at full development with open-pit mines, camps, mill sites, waste and wastewater processing sites etc.	RATIONALE FOR RECOMMENDATION: Section 10 of the Developer’s Proposed Terms of Reference indicates that emphasis will be placed on the cumulative effects of the upgraded road, with the effects of the mine, other transportation infrastructure, other resource development activities, and Park operations now and into the reasonably foreseeable future. To accomplish this, SCML will likely need to collect existing information regarding land leases accessed by the HPAR and the Nahanni Range Road; and the Selwyn-Chihong mine itself. It is agreed that the mine at full development would provide the bounding condition for the cumulative effects assessment. RECOMMENDATION No change recommended based on this comment.	This concern is captured in cumulative effects. The cumulative effects analysis will include a similar geographic scope as outlined in section 3.2.7 of the TOR and will consider overlapping/cumulative effects on valued components. This may include future planned projects in the Yukon. See section 7.
37	Naha Dehe Dene Band: Christine Wenman	Follow-up and Monitoring	Comment None Recommendation Please describe how Follow-Up and Monitoring will apply not only to environmental effects of the mine but also to positive and negative social, cultural and economic effects of the mine. Please also describe community member roles, responsibilities and influences over follow-up and monitoring.	RATIONALE FOR RECOMMENDATION The Follow-up and monitoring program for this EA will focus on the HPAR upgrade project and not on the mine site as mentioned by the reviewer, unless there is significant overlap that are best dealt with by the mine site programs. SCML believes that the focus of follow-up programs should be on the measures necessary to manage adverse effects. Issues related to community member roles, responsibilities and influences over follow-up are best addressed through Cooperation Agreements between SCML and potentially affected communities and any further SCML-Community Agreements to be developed as part of	Agree with SCML that the scope of the TOR and subsequent DAR does not include a full assessment of the potential effects of the future mine. Such an analysis must wait until the mine is proposed and assessed. The cumulative effects assessment will include an

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				<p>the Project. These are the mechanisms by which the reviewer’s issues are being addressed by SCML. SCML notes that it has formal Cooperation Agreements with both Sahtu and Dehcho communities that cover the life of the Project. These communities have been involved in the HPAR project in every step along the way and will continue to do so.</p> <p>SCML notes that Section 11 requires the description of the responsibilities for data collection, analysis and dissemination that might include community members, depending upon the nature of the program.</p> <p>RECOMMENDATION No change recommended based on this comment.</p>	<p>analysis of prospective effects from the anticipated mine in relation to the project.</p> <p>With respect to follow-up and monitoring, the TOR sets the stage for what SCML needs to consider. This includes appropriate ways to manage anticipated adverse impacts, such as follow-up programs, monitoring and mitigation measures. It is SCML's responsibility to propose appropriate management strategies. This is outlined in the TOR. If the proposed management strategies are a concern, parties will have the opportunity to express that later in the EA process.</p> <p>No change.</p>
1	WCSC: John Weaver	General File	Comment Wildlife Conservation Society Canada Comments and Recommendations proposed TOR for Selwyn Chihong Howard's Pass Access Road Upgrade Project Recommendation	Comments and recommendations in this letter have been added to this table (by SCML).	No response required.
2	WCSC: John Weaver	SCOPE/3.1/Tabl e 1, p.14	<p>Comment Grizzly bears have low reproductive rates and cannot sustain excessive mortality rates caused by humans. Human-based foods and garbage can attract grizzly bears, increase conflicts with humans, and lead to direct shooting or management removal of bears. Much progress has been accomplished in recent years in standards and techniques for appropriate handling of human foods and garbage to minimize the risk of conflicts. Grizzly bears occur commonly in the vicinity of the Howard’s Pass road, so the potential for conflict is real.</p> <p>Recommendation Best management practices for securing food and garbage attractants from bears should be itemized under ‘Temporary construction camps’ in Table 1.</p>	<p>RATIONALE FOR RECOMMENDATION Agree with this addition, but it should not be limited to bears, as attractants are a potential problem for other wildlife, such as wolverines.</p> <p>RECOMMENDATION Add the following bullet after bullet # 2 under Temporary construction camps (Table 1): -“Design, construction and ongoing implementation and monitoring of measures and practices to secure food, garbage and other wildlife attractants from bears, wolverines and other wildlife.”</p>	Recommendation added to Table 1.
3	WCSC: John Weaver	SCOPE- components/	Comment Woodland caribou and grizzly bears are species that are highly vulnerable to human disturbance, habitat fragmentation, and excessive	<p>RATIONALE FOR RECOMMENDATION The addition of grizzly bears as a Key line of inquiry is justified and SCML</p>	The Review Board has added Grizzly Bears as a KLOI based

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		3.2/ Table 2 and pp. 16-17	<p>risk of mortality.</p> <p>Recommendation <i>Both</i> the Nahanni herd of woodland caribou and grizzly bear should be considered priority species and designated as ‘key lines of inquiry’ for this environmental assessment.</p>	<p>concurs with this recommendation. Grizzly bears can be used as an umbrella species for other carnivores and have been used as an indicator of ecosystem function/health in the southern Rockies. There is good information and methods available for assessing project and cumulative effects on grizzly bears. Some baseline information exists for the Project areas, so the inclusion of grizzly bears as a key line of inquiry is possible without collecting additional baseline data.</p> <p>RECOMMENDATION</p> <p>1. Add grizzly bears as a Key line of inquiry in Table 2 and in the list in section 3.2.4. Recommended wording in section 3.2.4: “Grizzly bears: prevention of problems related to wildlife attractants at construction camps and encounters with people during construction and operation; direct and indirect effects from road traffic and road access.”</p> <p>2. In section 7.1, Key lines of inquiry, add a section to outline the framework for information required to undertake effects assessments for grizzly bears. The following text is recommended (where “X” is the section number):</p> <p>“X. Grizzly Bear</p> <p>SCML will describe and evaluate, using the best available information, the potential effects of the project on grizzly bears within the HPAR corridor.</p> <p>X.1 Mortality risk</p> <p>Including:</p> <ul style="list-style-type: none"> -mortality risk due to potential increased problem bear kills; and, -mortality risk from vehicle collisions, especially during the operations phase. <p>X.2 Direct and indirect alteration of habitat, including disturbance</p> <p>Potential changes to habitat including:</p> <ul style="list-style-type: none"> -availability of denning habitat due to the road footprint and operation; -availability of foraging habitat; -availability of security areas; and, -effects on habitat features (e.g., rub trees). <p>The effect of activities associated with all project phases will be considered, as will methods to minimize the effect of the all phases of the project on grizzly bears, including strategies for mitigation and monitoring.</p> <p>The evaluation of effects related to grizzly bears will be supplemented by management plans covering wildlife and wildlife habitat protection and wildlife effects monitoring.”</p>	<p>on the recommendation by the WCS and concurrence by Selwyn.</p>
4	WCSC: John	SCOPE-	Comment Nahanni National Park Reserve is a World Heritage Site, and	RATIONALE FOR RECOMMENDATION	The KLOI for the National

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	Weaver	components/ 3.2/ Table 2 and pp. 16-17	Nááts'ihch'oh National Park Reserve comprises much of the headwaters region of the South Nahanni River watershed. Ecological integrity is the policy mandate of Parks Canada. The Nahanni Caribou Herd and grizzly bears occur within the boundaries of these Park Reserves but also extend beyond them. Thus, impacts upon these trans-boundary components pertain to the ecological integrity of both of the Park Reserves. Recommendation Ecological integrity of Nahanni and Nááts'ihch'oh National Park Reserves should be a Key line of inquiry, separate and distinct from “visitor access to park areas and visitor experience, park heritage and cultural resources”.	In Table 2, the “Ecological Integrity” of the National Park Reserves is included as a Subject to consider that is separate and distinct from visitor experience. RECOMMENDATION No change recommended based on this comment.	Park Reserves includes both ecological integrity and visitor experience as separate items.
5	WCSC: John Weaver	Cumulative effects/s. 6 (p. 33), 7.1 (p. 35), 10 (p. 42)	Comment The building of this road not only will bring increased traffic levels into this remote region, but also has the potential to spawn additional development interest and/or access, and increased hunting levels, creating what is known as "growth-inducing effects". Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects. Recommendation We support the explicit inclusion of cumulative effects and suggest that this should be particularly targeted to the vulnerable wildlife species – woodland caribou and grizzly bear – and analyzed in the context of the ecological integrity of the Park Reserves. In this vein, some key questions for this assessment from a cumulative effects perspective include: 1) whether the development of the road will or could lead to new mining projects and an expanding footprint and/or greatly increase access to caribou range and the potential for unsustainable harvest? 2) Should the road effects be considered cumulatively with those associated with the mine, even if the activities are only exploratory at this stage in the development process?	RATIONALE FOR RECOMMENDATION As noted in Section 10 of the Developer’s Proposed Terms of Reference, SCML will consider the residual effects of the proposed project on identified VCs, placing particular emphasis on “Key Lines of Inquiry”, which includes the Nahanni Caribou Herd (Reviewer’s Recommendation 1) Emphasis will also be placed on the cumulative effects of the upgraded road with the effects of the mine (Reviewer’s Recommendation 2). RECOMMENDATION No change recommended based on this comment.	The ToR addresses the WCS's recommendation. The CE assessment will consider all past, present and reasonably foreseeable projects. This consideration will include potential effects of the prospective Selwyn Mine. It will also include consideration of any effects associated with exploration activities associated with Selwyn's mineral leases.
6	WCSC: John Weaver	SCOPE - geographic/ 3.3/ Table 3, p.18	Comment Most of the Nahanni Caribou Herd (NCH) spends the winter near Virginia Falls in Nahanni National Park Reserve and the summer-fall at the head of the Little Nahanni River and adjacent highlands along the Yukon border (Weaver 2006). The annual range of this herd has been estimated at 17,500 km ² . Grizzly bears occur throughout the Greater Nahanni Ecosystem, with higher densities in the more mountainous landscapes (Weaver 2006). Very high survivorship (>0.92) of adult female grizzly bears is a key factor in population persistence. Adult females often seek remote areas to raise their cubs. Minimizing disturbance of family groups as well as potential for grizzly-human conflicts are important conservation measures.	RATIONALE FOR RECOMMENDATION Geographic scope comment This is useful information and direction for the DAR. For the Terms of Reference, the revised wording for geographic scope of the wildlife and wildlife habitat proposed by Parks Canada, would encompass the scope outlined by the reviewer. Cumulative effects comment The reviewer points out that minimum geographic scopes for cumulative effects has not been included in this table. It is not feasible to set these distances in the Terms of Reference for all VCs, but a more general statement could be included. Surveys	The intent of the WCS recommendation and the recommended response by the developer is included in section 3.3, Geographic Scope, and in Section 4, Assessment Methodology.

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			<p>Recommendation The geographic scope of the Environment al Assessment for woodland caribou should include the annual home range of the Nahanni Caribou Herd (see Weaver 2006). For critical seasonal events, the geographic scale should include areas documented for calving and breeding by the NCH, especially within 3.2 km of the HPAR. The geographic scope of the Environment al Assessment for grizzly bears should be scaled at a minimum to the annual home range of adult females. Some data from the Mackenzie Mountains suggests their home ranges encompass 400-550 km².</p> <p>For both species, we note that the most recent surveys and radio-collaring data are over 5 years old. More recent data about distribution and movements will be necessary in this EA.</p> <p>To deliver the promise of cumulative effects analysis in the TOR, the study area must be large enough to encompass the total number of road crossings (and associated risk to aquatic environments) or sediment input into the watershed. We note mention of the potential for a regional approach (Table 4), which would be good assessment practice if there was a larger road network or the potential for new roads in the reasonably foreseeable future.</p>	<p>The statement that surveys are over 5 years old is incorrect. SCML conducts multiple ungulate surveys per year, the most recent being in 2015. SCML also conducted bear denning surveys along the HPAR in 2015. The regional-scale studies on caribou that included satellite collaring (to which SCML contributed) were conducted through a government partnership including federal Yukon and NWT agencies. Studies and analyses are ongoing and are reported on in SCML's annual reports on caribou baseline information. SCML is also not aware of significant changes to habitat over the past 5 years, except for the positive change of expansion of protected areas. (There is no recommendation associated with the comment on survey data.)</p> <p>RECOMMENDATION</p> <p>1. For geographic scope for wildlife and wildlife habitat (Table 3), replace with the following: "Defined on a species-specific basis as an area large enough to assess potential impacts at a population level, taking into consideration the seasonal movements, migratory movements, and lifecycle requirements of each species".</p> <p>2. At the top of Table 3 include a statement such as, "Geographic scope for cumulative effects assessment will extend to the point where direct and indirect effects from the project are not measurable."</p>	
7	WCSC: John Weaver	SCOPE - temporal/ 3.4/ Table 5, p.21	<p>Comment In spring (mid-April to mid-May), this Nahanni Caribou Herd migrates north-northwest up the South Nahanni River into the area at the head of the Little Nahanni River and adjacent highlands along the Yukon border. Here, adult female give birth to calves usually in mid-May to early June; this is a very critical event and time for caribou. Breeding (rut) usually occurs in the Little Nahanni River headwater basin in early October. The Howard's Pass Access Road (HPAR) passes through areas that are critical for these caribou during specific time periods. Grizzly bears are active from den emergence (April-May) until den entrance (October-November). Bears may also be susceptible to disturbance at dens (November-March). Different conservation measures are warranted during these different time periods.</p> <p>Recommendation The temporal scope of the Environment al Assessment for Nahanni Caribou Herd should include the spring migration, calving and post-calving period, the breeding rut, and fall migration. This would encompass mid-April to mid-November (see Weaver 2006). Due to the multi-decade existence of the HPAR and mine, the temporal scope should also address the cumulative effects over the entire time span of the proposed project on caribou.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>SCML considers that the current wording is sufficiently inclusive and does not in any way indicate that the life events for caribou and grizzly bears described by the reviewer would not be considered. Rather than set specific months to cover, SCML has indicated that the temporal scope is the entire periods of construction, operation and closure, with a particular focus on sensitive periods for wildlife.</p> <p>For cumulative effects assessment, the current wording does cover the entire time span of the proposed project (as recommended by the reviewer).</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	The description for the Temporal Scope in the ToR includes the intent of the WCS recommendation.

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			The temporal scope of the Environmental Assessment for grizzly bears should include both the active period (April/May → November) and the denning period (November → March/May). Due to the multi-decade existence of the HPAR and mine, the temporal scope should also address the cumulative effects over the entire time span of the proposed project on caribou.		
8	WCSC: John Weaver	ENVIRONMENT –wildlife/4.1.6, p. 24	<p>Comment New and/or upgraded roads and associated vehicle traffic introduce a ‘new environment’ that may displace animals, impede their movements, fragment habitats and populations, and impinge upon genetic exchange.</p> <p>Recommendation Description of the environment should include detailed discussion of location of the Howard’s Pass Access Road relative to the movements and activities of the Nahanni Caribou Herd.</p> <p>We note the commitment to a fairly comprehensive list of wildlife, wildlife habitat, wildlife features that will be included in the inventory work.</p> <p>This raises some concerns for us about whether the work will be spread too thinly across these elements to constitute robust scientific practice. We urge careful decision making as it relates to information gathering and analysis around the key lines of inquiry and cumulative effects, especially vulnerable and wide-ranging wildlife and ecological integrity of the park reserves.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>SCML agrees with the reviewer’s comment, has described the caribou environment that the HPAR will affect in the HPAR Upgrade Project Description Report (June 2015) and will expand on and update this for the DAR. The request is already addressed in the Developer’s Proposed Terms of Reference (DPToR) Section 4.1.6: “migratory patterns, routes, and timing in relation to project facilities and activities”. A detailed discussion about effects on caribou movement is identified as part of the assessment on caribou in the DPToR Section 7.1.1.2.</p> <p>The second part of the recommendation provides justification for not including a list of additional species as Subjects to consider in the wildlife and wildlife habitat VC, and we agree with this. Assessing effects on everything is often what proponents are pushed to do and makes for a poor Environmental Assessment. However, there is a difference between key lines of inquiry and subjects of note (see Section 3.2.1 Issues prioritization). As noted elsewhere, SCML recommends maintaining the general assessment of effects on all wildlife species as a subject of note (Section 3.2.5) and assessing only the Nahanni Caribou Herd and grizzly bears as key lines of inquiry (Section 3.2.4).</p> <p>All SCML’s wildlife studies conform to structured survey approaches that are repeatable and can be used to measure potential changes from baseline conditions through construction operation, and decommissioning.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	The ToR includes sufficiently detailed guidance to capture the WCS's concerns and recommendations.
9	WCSC: John Weaver	DEVELOPMENT – Construction Phase/ 5.2 /Table 6, p. 29	<p>Comment Human occupancy and associated foods and garbage introduce a ‘new environment’ for vulnerable species like grizzly bears. Grizzly bears have low reproductive rates and cannot sustain excessive mortality rates caused by humans. Human-based foods and garbage can attract grizzly bears, increase conflicts with humans, and lead to direct shooting or management removal of bears.</p> <p>Grizzly bears occur commonly along the Howard’s Pass Access Road, so the potential for conflict is real.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Table 6 includes, in the section on temporary construction camps, the Subject to consider: “wildlife attractant control and wildlife encounter minimization.” This fully covers the subject of concern. Wildlife attractants are also a concern for wolverine and potentially other species, so mitigation measures will not be limited to consideration of grizzly bears. The review process in place for the DAR will ensure that this section has adequate independent expert review.</p>	The ToR includes sufficiently detailed guidance to capture the WCS's concerns and recommendations.

ID	Reviewer	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
			Recommendation Description of the environment should include detailed discussion about management of human foods and garbage at all camps to minimize attractants for grizzly bears. This plan should be reviewed by independent bear scientists.	RECOMMENDATION No change recommended based on this comment.	
10	WCSC: John Weaver	DEVELOPMENT – Operations Phase/ 5.2 /Table 7, p. 30	<p>Comment Projected traffic volume along the HPAR during the operations phase is estimated to be 100 vehicles per day each way, or 200 total vehicle trips. Although the footprint of the road is relatively small, there will be a large truck passing through it every 7.2 minutes (contingent on a 24-h haul schedule).</p> <p>Recommendation The EA should describe measures to ensure safe passage or crossing of woodland caribou during critical periods (e.g., spring migration, calving, and rut). These measures should include the seasonal closure of the HPAR during critical time periods for caribou. Any mitigation plans should be reviewed by independent caribou scientists.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>The Terms of Reference sets out what the Developer is expected to include in the DAR. It is inconsistent with the process to be including recommendations on mitigations at this stage.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	This recommendation is not applicable to the ToR. This recommendation can be explored during the EA process.
11	WCSC: John Weaver	DEVELOPMENT – Closure Phase/ 5.2/Table 8, p. 31	<p>Comment Management of the HPAR upon completion of the mining project will have a major, long-term effect on the Nahanni Caribou Herd, grizzly bears, and other wildlife.</p> <p>Recommendation The plans for temporary or permanent suspension of the HPAR should explicitly address the different effects on caribou, grizzly bear, and other wildlife populations and the long-term ecological integrity of the National Park Reserves.</p>	<p>While SCML agrees that management of this public road post-closure may have impacts on wildlife, adding this point to Table 8 would not be consistent with the structure of the Terms of Reference.</p> <p>- Tables 6, 7 and 8 are subjects to consider in the development description and, as noted below the tables, “will be supported by management plans in final or draft format, as appropriate, including plans for road closure, wildlife and wildlife habitat protection, and erosion and sediment control.”</p> <p>- As noted in section 11, “Closure and reclamation will be covered as part of the development description (see Section 5) and will be discussed in other sections of the DAR, such as those assessing environmental impacts.</p> <p>- The section on wildlife and wildlife habitat (7.2.6) states that “SCML will describe and evaluate, to the extent possible using the best available knowledge, the potential effects of activities associated with all phases of the project on wildlife and wildlife habitat (including birds) and methods to minimize the effect of the project on wildlife, including strategies for mitigation and monitoring.”</p> <p>- The section in the Developer’s Proposed Terms of Reference on Key line of inquiry for the Nahanni Caribou Herd states that “The effect of activities associated with all project phases will be considered, as will methods to minimize the effect of the all phases of the project on caribou, including strategies for mitigation and monitoring.” If grizzly bears are added as a Key line of inquiry, similar text would be added.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	The ToR contains sufficiently detail and direction to address the WCS recommendation. No change required.

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12	WCSC: John Weaver	Harvest and Traditional land use harvesting/4.2. 2 (p. 25), 7.9 (p. 39)	<p>Comment The TOR is mostly concerned with impacts of the project on traditional harvest. But impacts may arise from increased harvest by resident hunters as well, due to greater roaded access to the areas where caribou occur in fall.</p> <p>Recommendation Impacts from increased harvest and monitoring of the potential for overharvest as a result of access provided by the upgraded road should be explicitly considered for all phases of the project.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>The access for hunting purposes is pre-existing and will not be changed by the project, except for limiting traffic during the operational phase for safety reasons. The HPAR is a public road. The permits applied for that triggered this environmental assessment start from the current time and current access for hunting is part of the existing conditions. The sections on wildlife and wildlife habitat, and on mitigation, will assess these effects.</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	The effects of past hunting pressures along the HPAR will be considered as a cumulative effect. Future hunting pressures will be assessed.
13	WCSC: John Weaver	ASSESSMENT of ALTERNATIVES 9.1/p.42	<p>Comment A full and fair examination of the alternatives in an Environmental Assessment should consider a 'No-Action' alternative.</p> <p>Recommendation The EA should place serious consideration into a 'No-Action' alternative and compare the effects to other alternatives.</p>	<p>RATIONALE FOR RECOMMENDATION</p> <p>Section 9.1 states that "A No-project Scenario shall be described as an alternative to the project".</p> <p>RECOMMENDATION</p> <p>No change recommended based on this comment.</p>	The ToR includes sufficiently detailed guidance to capture the WCS's concerns and recommendations.

Distribution List

EA1516-01, Selwyn Chihong, Howard's Pass Access Road Upgrade Project. The Developer's Proposed Terms of Reference

File(s):

Proponent: Selwyn Chihong Mining Ltd.

Reviewer Comments Due By: Nov 6, 2015

Proponent Comments Due By: Nov 13, 2015

Document(s)

Developer's Proposed Terms of Reference

Project description, water licence and land use permit application files

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