Sisson Project
TRC Comments on the draft EIA Report – Round 1a: Provincial EIA Review Process

#	Section #, Page # of EIA Report	Comment /Information Request	Proposed Change
1	Section 1.2.3 3.3.8	Project schedule: Depending on which properties will be impacted along the expanded transmission line corridor, access with heavy equipment must take into consideration and avoid possible damage to crops, subsurface drainage, surface drainage and farm access roads. Remediation measures may be required.	Please provide the extent of the work to expand the transmission line corridor and when it is likely to be carried out (or provide mitigation for avoiding impacts to crops, subsurface drainage, surface drainage and access roads).
2	Section 3.2.2.5, page 3-15	There should be more specific planning and engineered controls to manage soil and overburden piles so that they can be effectively re-used after site closure. Initially placing these piles in locations closer to end-use is preferable.	
3	Section 3.2.3.2, Page 3-18	Will there be any issues, such as water pump malfunctions and/or clogging, if using water from the tailings storage facility as process water?	
4	Section 3.2.3.2, Page 3-18	Reclaimed water from the tailings storage facility will be clarified in the clarification plant. How much waste residue is expected to be produced? Where in the tailings storage facility will the waste from the plant be disposed?	
5	Section 3.2.3, Page 3-20/ Section 3.4.2.2.3, Page 3-118	Gypsum residue from the tungsten processing using an alkali leach system will be stored within dedicated cells in the tailings storage facility. Please provide more information on the dedicated cells and how they will be constructed. Where will the dedicated cells be located within the TSF, in the submerged portion or above the flooding point? Are the dedicated cells the same as the lined containment pond indicated on page 3-118?	
6	Section 3.2.3.4, page 3-19	Figure 3.2.6 indicates Purification Residues (AS, P, Si, Mo, S) to be disposed of off-site. Where is the off-site disposal to take place?	
7	Section 3.2.4, page 3-20	The mine and waste storage proposal is an elegant and simple solution to waste management that should decrease complexity of material handling. Often the logistics of separation of PAG and NPAG can be difficult and impractical. Where there may be a question of ARD/ML it is safer to err on the side of caution and to permanently dispose of such material underwater. Having all waste in one impound makes water management and treatment simple. Having said that, managing the disposal of wastes within the impoundment may have its challenges especially in the south corner of the tsf. Waste rock should be managed to avoid interference with the tailings beach and to avoid ponding against the waste rock.	
8	Section 3.2.4.2, Page 3.21	Please provide more information on the water treatment plant. What potential water treatment may be necessary and what wastes could be produced from the process? How much water will the water treatment plant be capable of treating in a day?	

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9	Section 3.2.4.2, Page 3.21	It is mentioned the inflow of water from a 1-in-10 day rain event could be removed within 10 days. However, it does not mentioned on what type of rain event the design for the capacity of the ponds are based on. Was the design capacity determined assuming that the pumps were working? If so, at what flow?	
10	Section 3.2.4.3, page 3-21	It is recognized that final tailings dam engineering will not be available until additional field work and design has been completed. It should be noted that the Minister of Energy and Mines has the authority to approve all new tailings dams and the final engineering designs must be submitted for review to several departments, including Energy and Mines.	
11	Section 3.2.4.3.1, Page 3-21	Will there be a low permeable barrier, such as a HDPE liner or equivalent, placed at the bottom of the tailing storage facility in order to eliminate, as much as possible, seepage from the TSF? How much seepage is expected from the tailings storage facility? How will the amount of seepage be estimated/calculated once the project is operational?	
12	Section 3.2.4.3.2.1, page 3-23	Figure 3.2.7 – Please clarify thickness of geomembrane – is it 80 or 50 mm HDPE? What is the purpose of this membrane?	
13	Section 3.2.4.3.1, Page 3-21/ Section 8.4.4.1.2, Page 8-112	The report indicates that the base case project design includes pump-back wells at the northwest (page 3-25 indicates northeast) corner of the TSF in order to capture some seepage that is not collected by the water management ponds. Why can seepage in this area not be eliminated by design of the project or engineering means? How many pump-back wells are anticipated to be needed? What is the potential area of influence of a pump-back well? How will the pump back wells influence the water table level and possibly contribute to the overall water table lowering in the area?	
14	Section 3.2.4.3.2.1	It is suggested the tailings zone upstream of the embankment will be of low permeability and will mitigate seepage migration through the base of the TSF. There are 2 different zones in that statement: the zone adjacent to the embankments and the inner zone or main floor of the TSF. It was previously suggested coarse particles will tend to remain on the tailing beaches and the finer particles will flow more to the centre of the TSF. What is the anticipate grain size and permeability of the tailings in those 2 zones?	
15	Section 3.2.4.3.2.1 Page 3-22	With regards to the TSF, the report states that “The final embankment has an elevation of 376 m above sea level”. What will be the height of the structure’s tallest section measured from the lowest point in the local topography (e.g. within a valley)?	
16	Summary document, P53 and Section 3.2.4.3.2.6, Pages 3-25,	*“Seepage past TSF expected to impact trace metal concentrations in downstream water.”* - What is the anticipated seepage rate of the TSF constructed using a Centerline construction methodology? Will the TSF be lined above the initial starter pond with non-PAG tailing sands or another less permeable liner? If not, why? How	

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	3-64	will the TSF berm be protected against wind and wave erosion?	
17	Section 3.2.4.3.2.6	What is the proposed liner for the WMPs? Where are the pump-back wells located and are collection galleries a part of that design?	
18	Section 3.2.4.3.2.6, Page 3-25/ Section 3.4.1.2.9, Page 3-91/ Section 7.6.2.2.1.3, Page 7-79	Several water management ponds will be constructed at the bottom and downstream of the tailings storage facility embankment. What will be used to line the water management ponds? How will the integrity of the liner be evaluated over the life of the mine? How much groundwater seepage is expected to potentially bypass the water management ponds?	
19	Section 3.2.4.3.2.6, page 3-25 & Section 3.4.2.3.4, page 3-123	What is the design capacity of the perimeter ponds? Do all WMPs have the same capacity?	Include capacity of WMPs in EIA report.
20	Section 3.2.4.3.3.1	The Inflow Design Flood (IDF) is assumed 0.58 mm. Should that be 0.58 m?	
21	Section 3.2.4.3.3.2	3.2.4.3.3.2 Indicates the stability analysis indicates the embankments would be stable and the MDE not result in any loss of freeboard or embankment integrity. It goes on to indicate the embankments are not dependent on the tailings strength to maintain overall stability and integrity. The proposed design for the embankments appears to employ a modified upstream approach (rather than a modified centerline approach indicated in the report) in that the upper sections are constructed over existing, likely saturated, tailings that in 3.2.4.3.2.1 were compacted only by the weight of a dozer and 3.2.4.3.1 indicates the tailings will under their own weight will compact and settle over time. The embankment could not be constructed without the tailings to support the inner face and as a result appear to be integral to the stability of the embankment. Post liquefaction tailing strength has been considered, but has the liquefaction of the tailings and the resultant loss of strength been considered during seismic conditions? Please confirm that the seismic analysis applies to the currently proposed embankment design. It is suggested a centerline approach is superior under seismic loadings. Does this relate only to the upstream approach? Is the downstream approach superior under seismic loading to both the centerline and upstream approaches of embankment construction?	
22	Section 3.2.5.1.6, Page 3-31/ Section 8.4.4.1.2, Page 8-112	What is the potential for explosive residues in the TSF water to interact with chemicals from the ore processing of the molybdenum and tungsten? What is the potential for groundwater contamination from explosive residues in the waste rock and from the open pit?	

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23	Section 3.2.5.3.2 Page 3-34	Discussion with DNR and the Crown Licensee will be required to ensure the proposed realignment of the Fire Road will meet operational and safety requirements.	
24	Section 3.2.5.4.2, Page 3-37/ Section 3.4.2.3.8, Page 3-125/ Section 8.4, Page 8-58 to 8-60 and 8-121	The project requires approximately 21 m3/day of fresh water supply from groundwater wells. The WSSA process will need to be followed in order to evaluate the water supply. The proponent needs to submit an Initial Application for review and approval before any water supply wells are drilled on-site. The location of the wells will be critical in order to avoid mine workings, potential contamination sources and potential issues with the lowering of the groundwater table from pit dewatering. The Initial Application should include details on the proposed testing of the water supply, as the testing procedures may differ from those outlined in the WSSA guidelines.	
25	Section 3.2.5.4.3, page 3-37	What are the water quality parameters of the filtered process water? Could the filtered process water pose potential contamination and/or environmental impacts in the event that this water is used to extinguish fires at the APT plant?	
26	Section 3.2.5.6 Page 3-38	The report indicates that no wildlife fencing is planned to encompass the entire PDA. What safety measures are planned to prevent wildlife access to project components during all phases of the project?	
27	Section 3.2.5.7	The report states that a new power line will be constructed by NB Power. Will the proponent provide the information necessary to evaluate the environmental impacts of this portion of the project? If so, these details should be made available immediately during the EIA review. Or will NB Power register this as a separate project under EIA?	
28	Section 3.2.5.7	Power supply: Easement interests will be acquired on all properties affected by the right-of-way. Expansion by 25 meters might affect cleared land in the Keswick/Burtts Corner area, again depending on its exact location. This might limit the possible expansion of agricultural operations on land that the farmers might have purchased for that purpose. How does the proponent propose to mitigate these impacts?	
29	Section 3.2.5.8, page 3-45	The rock quarry may require a Crown quarry lease from Energy and Mines since the property is Crown owned.	Please add this potential permit requirement to Table 4.1.2
30	Section 3.3.4.3, page 3-62	There should be additional explanation and rationale as to why dry stack tailings has been ruled out as a tailings storage option. Some examples of dry stack tailings in temperate climates, along with associated infrastructure and management challenges should be presented. Also, more emphasis should be added of the implications of long term closure risks of a dry stack versus water cover option. It is acknowledged that water cover options effectively eliminate acid rock drainage issues and that should be the key concern. Water management and dam safety are still considerable issues even for a dry stack tailings concept.	Please provide a more detailed alternative analysis and rationale for elimination of the dry stack tailings option.

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31	Section 3.3.3.5.2, page 3-56	Storage Efficiency – was any preliminary modeling conducted to determine if the TSF embankments at 1c would potentially by lower than those proposed at 1b?	
32	Section 3.3.3.5.3, page 3-58	Economic factors considered in the TSF alternatives analysis should also include those factors relevant to Crown Land users. Why were none of these evaluated? Is there a TSF alternative that impact Crown Land users less than the others? (Camp Lot leases in/near each alternative site? Amount of merchantable lumber for each alternative site? Non-timber forest products? Etc.)	Suggest including Economic Factors such as loss of revenue from timber and non-timber forest products, and value of the loss of recreational area for each option.
33	Section 3.3.3.5.4, page 3-58	Archaeological Potential: Why were the TSF alternative sites not modeled for archaeological potential? Is it possible that there would be less area of elevated potential for heritage resources in either of the alternative sites?	
34	Section 3.3.4, page 3-60 to 3-63		Please provide further detail in the analyses of the alternative tailings management technologies, including examples of mines that effectively employ alternatives for comparison to the selected technology.
35	Section 3.3.5, page 3-64	Although the Downstream Construction alternative costs more and has a larger footprint, does it provide additional stability in the event of seismic activity?	Please provide a comparison of failure rates for Centreline versus Downstream construction for the TSF embankments.
36	Section 3.3.10, page 3-78	Factors listed as considered in the evaluation of HADD project alternatives includes "…*value to stakeholders and First Nations*". How is this possible since there has been little to no discussion with First Nations regarding the proposed HADD projects nor any identification or consideration of alternatives that may be preferred by First Nations?	
37	Section 3.4.1.1.3 Page 3-83	Discussion with DNR and the Crown Licensee will be required with respect to arrangements for merchantable timber removed from the site, roads and powerlines etc. When does the proponent anticipate clearing of the project footprint to commence within the PDA?	
38	Section 3.4.1.1.5	Stockpile of topsoil and overburden **-** How will runoff from these stockpiles be managed?	
39	Section 3.4.1.1.5, page 3-83	The containment of stock piled of organic soils and overburden located on upgradient slopes outside of 30m of a watercourse needs to employ sediment control fencing to prevent transport down slope to adjacent watercourses.	
40	Section 3.4.1.2.4, Page 3-85	The report indicates that petroleum storage areas and fuelling areas will not be located within 100 m of a watercourse or wetland. This condition should also apply to groundwater supply wells and the restriction should also apply to chemical storage areas and explosive storage.	Add groundwater supply wells to statement.
41	Section 3.4.1.2.7.2 Page 3-86	A detailed design of the fish removal strategy must be submitted to the Province for review by regulators prior to removal of any fish.	

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42	Section 3.4.1.3 Page 3-93	A commitment to remove erosion control structures once stabilization is achieved is required.	
43	Section 3.4.1.3 Page 3-91	There is no mention of conduct of archaeological assessment for the area of the transmission line and associated infrastructure.	Include description of work required in relation to the expanded transmission line and associated infrastructure.
44	Section 3.4.2.2.2 and Section 3.4.2.2.3, Pages 3-115 to 3-121	All the water from the ore processing will be sent to the tailings storage facility. Will there be any negative interaction between the chemicals used in the molybdenum ore processing (such as fuel oil, pine oil and methyl isobutyl carbinol) and those used in the tungsten APT production (such as sulphuric acid, ammonium hydroxide, lime, etc.)? What is the potential degradation process for the chemicals used in ore processing?	
45	Section 3.4.2.3.1	It is mentioned that rotational deposition of tailings will keep exposed tailings beaches wet during operations to prevent dusting. What will be done to prevent dusting if this method is not sufficient to keep the beaches wet?	
46	Section 3.4.2.3.4, Page 3-123	What is the anticipated frequency of occurrence of the overflow condition during Year 1-8, year 9-27, year 28-39, year 40 onward, under winter frozen conditions versus summer dry conditions versus saturated spring or fall conditions, considering varying seepage rates?	
47	Section 3.4.2.3.4, Page 3-123	What size rain event can the WMPs contain runoff from, in addition to general seepage? Will the WMPs ordinary condition be full or empty so as to have storage capacity? What is the pump capacity? When will they be operated?	
48	Section 3.4.2.3.4, Page 3-123	What runoff scenario would result in overflow from the WMPs to the environment?	
49	Section 3.4.3.2, page 140	On closure, what is the anticipated flow rate from the refilled and flooded Open Pit water feature? Where will the new water feature drain to? Will it have more than one release point or receiving watercourse? Considering that the quarry drainage plus TSF drainage and new water feature (open Pit) runoff combine several pre-construction drainages into one, what will be the impact on the receiving watercourse from this combined new drainage area?	
50	Section 3.4.2.3.4, Page 3-123	What will be the procedure to determine if water stored in the water management ponds is suitable for direct release to the environment?	
51	Section 3.4.2.3.7 Page 3-125	Throughout the report, reference is made to a water treatment plant. Specifically, what treatment is the plant designed for? Please provide additional details for the design, capacity and operation of the water treatment facility.	
52	Section 3.4.2.3.4	It is mentioned that starting around year 8, a surplus of approximately 2 million cubic meters of water will be treated and discharged to the environment, while in several locations in section 7 of the report mentions 6 million cubic meters. Which is correct? Is the flow of surplus water estimated to the approximately the same during post	

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		closure? It is mentioned that the operational supernatant pond volume will be managed to ensure that sufficient storage exists for operational flexibility and storm inflow storage. What type (1-in-10, 1-in 25, etc) of storm has been used to determine the appropriate storage capacity during operation, closure and post-closure? It is mentioned that the water in the water management pond may be directed to the environment if the water quality is suitable. How will the water be discharged to the environment if that is the case? How many monitoring wells will be located below the water management ponds? Will there monitoring wells for both shallow and deep groundwater? Where will they be located?	
53	Section 3.4.3, page 3-139	The conceptual reclamation plan as presented is not sufficiently detailed. It is acknowledged that a more detailed reclamation plan will be submitted as required under the Mining Act and for EIA review. Some of the concepts presented such as covering tailings embankments and utilization of tailings area as forest habitat may not be an appropriate use of this infrastructure. The closure concepts and land use objectives for remaining water bodies is vague and it's not explained how public safety and wildlife safety issues will be addressed. This should be addressed in the reclamation plan.	
54	Section 3.4.3, page 3-139	The EIA report suggests the idea that financial security for reclamation would be submitted in stages according to mine progression. It is recognized that this *may* be a plausible scenario; however at this time it should be noted that the risks, costs and requirements for security have not been evaluated by Department of Energy and Mines and this method of security payment has not been agreed to.	
55	Section 3.4.3, page 3-139	The estimate of $50M for closure costs is unsupported as presented. It is expected that the reclamation plan will provide a thorough, itemized cost estimate for what is proposed.	
56	Section 3.4.3.2.4, Page 3-143/ Section 7.6.1.1.3, Page 7-75/ Section 8.4.4.3.3, Page 8-129	How long post-closure is it anticipated that the pit lake level will need to be kept artificially low in order for it to be a groundwater sink? Will this level be correlated to local groundwater levels and adjusted for seasonal and annual water level fluctuations? What is the contingency plan if the water level cannot be kept artificially low? What is the predicted/modeled water quality of the pit lake water?	
57	Section 3.4.3.2.4, Page 3-143/ Section 8.4.4.3.3, Page 8-129	How long is it anticipated that the post-closure mine water will need to be treated by the water treatment plant before it can be directly released to the environment? What is the proposed water treatment?	

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58	Section 3.4.2.3.7	Surplus Water Treatment, Release and Monitoring - At several locations in the report, including this one, it is mentioned that starting approximately in year 8 of operation, surplus water will be treated and discharged to the environment. When will the water treatment plant be built? What will be done if water needs to be discharged before the treatment plan is in operation? How will the water be discharged in Sisson Brook?	
59	Section 3.4.2.3.7	Are thiosalts expected to be generated/released by the facility? If so, how will they be dealt with?	
60	Section 3.4.2.3.7	Please note that the Approval to Operate will state water quality limits as well as the parameters to be monitored. The effluent will be required to be sampled weekly at a minimum. Certain triggers (elevated parameters, equipment malfunction, etc) may periodically require more frequent sampling. Also, flow and pH of the final effluent will be required to be continuously monitored.	
61	Section 3.4.2.5.4 Page 3-137	In a discussion of cells to manage the APT residues, the report indicates that "Fences or other suitable means will be used to limit access to the ponds and deter wildlife entry." A complete discussion of wildlife access to all facilities during all phases of the project is required.	
62	Section 4 General	Please provide the expected schedule for all authorizations (e.g. land tenure, permits, approvals etc.) that will be required for this project.	
63	Section 4 General	The vast majority of the proposed Project Development Area (PDA) is located on Crown lands administered and controlled by the Department of Natural Resources. The proponent is required to apply for and receive appropriate land tenure from DNR prior to any activities that require Crown lands to be occupied. o Existing forest resource roads will provide access to the PDA. Ongoing maintenance and repairs to the road surface and watercourse crossings will be required on an ongoing basis. Authorization for this road maintenance will be required. o The proponent plans to construct new roads on Crown lands in order to gain access to the PDA. These include the realignment of Fire road and a site access road. Land tenure in the form of a Licence of Occupation will be required to construct these new roads. o Land tenure will be required for all surface work and maintenance within the mine site PDA, which encompasses the proposed buildings and mining infrastructure.	

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		○ Any required power line infrastructure to the PDA will required land tenure in the form of a Licence of Occupation or Easement.	
64	Section 4 General	• Applications for land tenure (Leases, Licences of Occupation or Easements) may be obtained from the Department of Natural Resources' Applications and Information Section by contacting Stella Chiasson, the Applications and Information Coordinator, at: Tel: (506) 444-4487 Fax: (506) 457-4802 E-mail: stella.chiasson@gnb.ca	
65	Section 4.1.2.2.1 (air) & Section 4.1.2.2.2 (water)	*Approval to Construct:* An Air Quality and Water Quality Approval to Construct will be required for this project. An application form (see link below) must be submitted to the Department at least 90 days before the anticipated start date of construction. *Application form:* The application form for an air and/or water quality approval to construct and/or operate can be found online at : http://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Air-Lair/RequestingApprovalOfSourceDagrementPourUneSource.pdf	
66	Section 4.1.2.2.1	*Air Quality Approval to Operate:* In order to be able to determine the class of the air quality approval to operate for this facility, the estimated total process gas flow (from scrubbers, dust collectors, process vents, etc.) from the facility will be needed. The classification is also based on SO2 and PM annual emissions from stationary sources, however from the information provided in the EIA document, it does not seem that these factors will be driving the classification for this project. As per section 25(2) of the *Air Quality Regulation- Clean air Act*, the process gas flow from the burning of fuel only to generate heat or steam (boiler) will not be taken into consideration for the classification. Also, as per section 25(3), a facility utilizing equipment to control, reduce or eliminate the emission of contaminants other than SO2 and PM, the class of the facility will be increased by one class, expect if in class 1. Since the facility will be using scrubbers to reduce/remove H2S and NH3, this last section will apply to this facility. Therefore, if the process gas flow from the facility is more than 600 m3/min, this facility will be classified as a class 1B facility. As per section 16 of the *Clean Air Act*, the issuance of a class 1 air Approval needs to go through the Public Participation	

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		Process which is regulated by the *Public Participation Regulation – Clean Air Act*. If the facility falls in the class 1 category for air quality, an application form for the approval to operate will need to be submitted to the Department at least 240 days before the anticipated start date of operation at the facility. If the facility falls within a lower class, the application form needs to be submitted at least 90 days prior to the anticipated start date of operation.	
67	Section 4.1.2.2.2	*Water Quality Approval to Operate:* As per section 5(1) of the *Fees for Industrial Approvals Regulation- Clean Environment Act*, a source of contaminant that is a mine under the Mining Act shall be classified as a class 1A. An application form for the Approval to Operate will need to be submitted to the Department at least 90 days prior to the anticipated start date of operation.	
68	Section 4.3.2, page 4-28	In Table 4.3.2 it is acknowledged that there will be seepage from the TSF into groundwater. It is also indicated that seepage will be collected in downstream water management ponds and recycled into the TSF and groundwater monitoring wells will be located downstream. • How can Northcliff ensure that seepage will not result in the contamination of drinking water or aquatic habitats? By way of assurances, can Northcliff provide a description of similar projects where seepage control and monitoring has been successful? • Will there be adverse impacts on aquatic species that are important to First Nations (e.g., salmon, brook trout, beaver, etc.), due to low water levels?	
69	Section 4.3.2, page 4-32	Table 4.3.3 of the report states that “First Nations will be afforded the opportunity to collect plants of importance prior to Construction.” • Should the project be approved, will First Nations be given the opportunity to gather and (or) relocate plants of cultural significance (as a final resort) that may be adversely impacted by the project? • Some plant species of cultural significance to First Nations may not survive transplantation to another location. How has Northcliff taken this into consideration? • Will funding be made available to provide technical support, training or assistance to First Nations for identifying, relocation, stewardship and monitoring of transplanted plants?	

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		• If plants are relocated to Crown land, will there be an agreement between Northcliff and the Crown to maintain these sites for traditional purposes, as culturally significant areas?	
70	Section 4.5, page 4-37 & Section 8	The report states: *"Although some project proponents may have announced their intentions regarding many other proposals or concepts, it is not possible to assess their cumulative environmental effects that overlap with those of the Project because very little concrete information is known about these proposals at this time."* This statement is incorrect with regard to the items in Table 4.5.1 under the heading Potential Future Projects or Activities. The Closure of Brunswick Mine 12, and re-initiation of mining by Stratabound Corp. at Heath Steele have both received *Determinations* under the provincial EI A Regulation and are proceeding. Detailed information for both projects is available from both the proponents and DELG. AV Nackawic Inc. has had several projects determined in the past two years, which may or may not interact with the proposed project in terms of cumulative effects. Details of these are available from the proponent and DELG. Although not as detailed in terms of specific projects, there is ample information available on shale gas exploration in NB to at very least determine areas of potential overlap. Similarly, information for exploration and development for other mining operations is available from the province. The cumulative effects analyses in Section 8 of the report are lacking detail which makes it impossible to determine accuracy of the conclusions. For example, in Table 8.2.12, which Industrial Land Uses (past, present, or future) were considered in the analysis? What impacts to the atmospheric environment did any of these have? What was the geographical extent of these impacts? What are the impacts to the atmospheric environment from recreational activities? How were these quantified? How were the impacts to atmospheric environment from forestry activities in the area, both now and in future quantified? (This information is reasonably predictable from Crown Land management plans with timber licensees).	Provide more detailed analyses of cumulative impacts that include reasonably foreseeable activities and projects as well as information that is already available for existing projects that may or may not overlap with impacts of the proposed project.
71	Section 6.3.4.4	Fish Resource use – fishing is permitted for all non-sport fish during the period when a sport fish season is open (not limited to those species listed).	Please make necessary revisions to EIA report.
72	Section 7.1 General	The pages in this section are labeled 7-1 to 7-26, then switch to 7-1 to 7-14 again. It is assumed this second section should be 7-27 to 77-40.	Please correct page numbering of this section.
73	Section 7.1 General	Any exceedences of standards and/or objectives will require additional monitoring and modeling regardless of location.	

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74	Section 7.1.2.1/Page 7-14 and 7-25	Table 7.1.9 and 7.1.11 identify exceedences of PM and PM10. However the proponent states that the effects of dust suppression activities were not reflected in the dispersion modeling results. Would there still be predicted exceedences if the effects of dust suppression activities had been estimated and used in the model outputs?	Include reductions in PM emissions due to dust suppression activities.
75	Section 7.1.2.2/The page says 7-1 but should be 7-27.	Odour thresholds and H2S and NH3 concentrations. Are the emissions from the APT plant inclusive of the reductions from the pollution control systems or are the emissions presented uncontrolled?	Expand the description of the pollution control systems applied to the APT plant operations.
76	Section 7.4.2.2. Page 7-39	Tributary A – "suitable for …brook trout and other warm water species" – Brook trout is not a warm water species. Also - last sentence is a duplicate of the previous.	Please revise.
77	Section 7.7.2.2.1/Page 7-127	It is not entirely clear how the concentrations of metals from the core and the overburden were calculated/estimated. Please provide more clarity to illustrate how the concentration in cores and overburdens were extrapolated to represent emission rates that were inputs into the model.	Expand the calculations to illustrate how the metallic emissions rates to calculated and included in the model results. Provide updated model results if warranted.
78	Section 7.4.2.2 Page 7-39	Please provide an example of the type of habitat that "would not support fish" within the second order tributaries to Bird Brook.	
79	Section 7.4.3	Direct loss of habitat - Was any consideration given to re-routing any sections of stream such that they would be altered but not lost, thus keeping the flow components? (e.g. Sisson Brook)	
80	Section 7.4.3	Indirect loss of habitat – the HEC-RAS model quantifies but does not qualify lost habitat. What might be the anticipated impacts to Brook trout populations from loss of preferred habitat - edge habitats, overhanging cover, undercut banks and decreased pool depth?	
81	Section 7.4.3.2 Page 7-45		Manzer Creek should be changed to Manzer Brook and Frenchman Creek should be changed to Frenchmans Brook. Please revise.
82	Section 7.4.3.3 Page 7-55	Will any downstream watercourse crossings or other structures be impacted by the increased flow at node MB-3?	
83	Section 7.4.5.3 and Section 8.5.4.2.4.	Fish Habitat Compensation – given the impacts to headwater streams and primarily Brook trout habitat, some smaller scale, smaller system enhancements should be included along with the Lower Lake dam proposal. There is little benefit to Brook trout (the most directly impacted species) from the Lower Lake dam proposal. Restoring fragmented habitats and ensuring access to thermal refugia on other streams within the Napadogan/Nashwaak watershed should be a priority. This need is reiterated by the fact that the period when thermal refugia is needed will be prolonged (8.5.4.3.2.3, p. 8-222) due to project-related impacts and yet there will be less refugia available and potentially more fish competing for it (pending fish relocation scenarios). Section 8.5 (p-8-138 & 8-221) indicates cold water is available	

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		elsewhere, but is it accessible? Where is it located?	
84	Section 7.5.2.2, Page 7-68	The pit walls are considered potentially acid generating, however, the report states that testing indicates that the timing for onset of acid rock drainage is greater than 100 years. How much of the pit wall will be left above the level of the pit lake (the flooded area) post closure?	
85	Section 7.5	What is the potential for metal leaching and increased mobility of trace metals, such as arsenic, copper and selenium, due to interaction with chemicals used to extract the molybdenum and tungsten. Can potential leached trace metals be recovered before the waste stream goes to the tailings storage facility?	
86	Section 7.6.1.1.2, Page 7-73	Will the water diversion channels be lined and how will the integrity of the channels be checked over time?	
87	Section 7.6.1.1.3 & Section 8.4.4.3.1 Page 8-123	The intent is to capture all of the water that would have originally flowed from Trib. A West Br. Napadogan Brook, Sisson Brook and Bird Brook and discharge it through the original Sisson Brook channel downstream of the PDA. It is anticipated that from year 8 to year 27 it will be 188% of the original flow in the channel and from year 40 onward, it will be 213% of the original flow. Has there been consideration of the impacts of increased flow volume on the Sisson Brook channel/geomorphology? What plan is in place to assess and mitigate the impact on the original channel of Sisson Brook for the 900m distance from the outlet of the TSF or open pit to where it flows into the West Branch Napadogan Brook?	
88	Section 7.6.3.3.2 Page 7-85	The report indicates that in Year 34, ferric sulfate batch treatments of the open pit water begin. Please provide details of this process.	
89	Section 7.6	What is the anticipated quality (discharge concentrations) of the water discharged from the WTP in the various phases of the life of the project? Will the various reagents used in the process be monitored in the WTP discharge?	
90	Figure 7.6.1	The water balance of Figure 7.6.1 does not consider leakage from the floor of the TSF. The bedrock below the TSF is characterized in Figure 3.2.7 to be “highly weathered”. What is the anticipate leakage from the floor of the TSF? Has that leakage been quantified and considered in the predictive water quality model?	
91	Section 7.6.3.4.2	It is suggested that “Metals were only modelled in the dissolved form within the proposed mine facilities, and in the total and dissolved form at downstream locations.” Is this a conservative assumption?	
92	Section 7.6.3.6.3	Why do the results of the water model only include impacts to UT1, MBB2 and the NAP stations? Were points SB, BB, UT3 and UT4 modeled? And if so, are the anticipated impacts to those points available?	

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93	Section 7.6.3.6.1, page 7-90	Why is the seepage rate from the TSF less during closure and post-closure than during operation? What would have changed?	
94	Section 7.6.3.3.1 Page 7-84	In the report, it is noted that the seepage recovery system is assumed to recover 30% of TSF basin seepage. This number appears to be low. Why is it not possible to recover a larger percentage of the TSF basin seepage?	
95	Section 7.6.3.6.3	Modeling predicts several exceedances of CEQG of most parameters at UT1. Please provide mitigation strategies for avoiding these exceedances.	
96	Section 7.6.3.6.3, page 7-92	What is the anticipated water quality of WMP releases at the condition of overflow due to seepage and a failed pump during Year 1-8, year 8-27, year 28-39, year 40 onward?	
97	Section 7.6.3.6.3, page 7-92	Were turbidity, dissolved oxygen, conductivity, and pH modeled? Confirm all modeled scenarios did not indicate exceedences of CCME FWAL guidelines and thus the reason they are not discussed in this report.	Include confirmation in report.
98	Section 7.7.2.2.9 Page 7-137	Many of the fish used to establish baseline concentrations of metals in fish tissue were smaller than would be expected to be consumed by anglers. Given that metals bio-accumulate over time, this should be taken into consideration when using the data. Was this considered in the assessment?	
99	Section 7.7.4.7.3 Page 7-196	What are the anticipated impacts on waterfowl utilizing the TSF during operation and the pit lake during closure and post-closure?	
100	Table 7.7.5, Page 7-177	It is noted in the table with an “X” that the ingestion of small mammals / birds is a potential exposure pathway for snowshoe hare.	This column should be blank since the snowshoe hare is an herbivore.
101	Section 7.7.5 Page 7-208	Have the potential risks of waterfowl or other semi-aquatic wildlife to exposure to the TSF during operation and the open pit during closure and post-closure been assessed?	
102	Sections 8.3.4, 8.12.3 and, 3.2.2.2	Section 8.3.4 States: “Blasting noise is very brief (approximately 2 seconds at a time), and will occur approximately two to three times per week.” Section 8.12.3 States: “As discussed in Section 8.3, blasting noise is very brief (approximately 2 seconds at a time), and will occur approximately every second day.” Section 3.2.2.2 states: “Blasting will occur once or twice a day using emulsion explosives.” Please clarify which of these statements most accurately reflects the expected blasting frequency.	
103	Section 8.4 General	Please verify if any of the leaseholders located in the Napadogan Brook Camp Lot Cluster have drilled wells that may be affected by the localized lowering of the water table caused by the dewatering of the open pit.	
104	Section 8.4.2.4.1, Page 8-97	Eleven monitoring wells were installed at 6 locations in 2011 to investigate the hydrogeology within the PDA. This is a very limited amount of data that is being collected to characterize such a large scale area with large anticipated changes to	

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		the local groundwater flow regime. The report indicates that further monitoring well information is required to comprehensively map groundwater flow directions throughout the LAA. What further evaluation is being completed? What about further groundwater quality data?	
105	Sections 8.4 & 8.5 General	Under the proposed Water Treatment Plant design there are expected effluent quality concentrations listed. The proponent will be required to undertake further discussion with the regulators to determine how these correlate to possible regulated effluent concentrations. This discussion should be initiated as soon as possible.	
106	Section 8.4.2.4.1, Page 8-94 to 8-96	Data in the baseline reports ends in mid-September of 2012. Was data collection continued after this date from the groundwater monitoring wells? Will the status and condition of the water supplies at nearby campsites be submitted for review?	
107	Section 8.4.4.2 Page 8-113	The report indicates that water supplies at recreational campsites will be documented for pre-construction status and condition. What does that mean and will enough information be gathered to be able to determine impacts, if any, on the water supply quantity and quality as a result of the project? Will the lease holders be compensated if impacts to their water supply are identified?	
108	Section 8.4.4.2 Page 8-114	How will inspection and assessment of the water supply after the fact lead to a determination of whether a complaint is warranted?	
109	Section 8.4.4.3.2 Page 8-125, first paragraph	Statement from the report: *"If complaints are received about groundwater drawdown at these locations during Operation, Northcliff will investigate further to determine the extent and magnitude of drawdown during Operation including any effects on recreational campsites, and mitigation will be implemented."* What are the proposed mitigation efforts? Does Northcliff have an existing protocol to deal with public complaints/concerns or will such a protocol be developed at a later date?	
110	Section 8.4.4.3.2 Page 8-125, first paragraph	Statement from the report: *"Prior to beginning Operation, the condition of the water supplies for the recreational campsites will be confirmed with the owners, and the owner's permission to document pre-Construction status will be obtained."* How will the condition of the water supplies of the recreational campsites be obtained – via a questionnaire completed by the camp owner or water quality testing?	
111	Section 8.4.7, Page 8-108 & 8-133/ also see Section 9.4.3.2.2, Page 9-19	The adaptive management plan with details regarding groundwater effects monitoring should be submitted to the Department for review once it is completed. Would this plan include the locations of monitoring wells that will be used to monitor potential groundwater quality effects due to groundwater seepage and the list of parameters to be analysed? Will the recommended reference groundwater location in the East Branch Napadogan Brook Watershed be installed? Would this well be considered in addition to the 11 (nested) monitoring wells installed in 2011?	

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112	Section 8.4.7 Page 8-134	Monitoring of the outflow of the open pit post-closure should be included.	
113	Section 8.5 General	There are four (4) inland aquaculture facilities in the area that may be impacted by the construction and operation of the open pit tungsten-aluminum mine. These are as follows: IF-0088 is a brook trout operation located on Hwy 620 in Stanley IF-0095 is a brook trout operation at 307 Route 8 in Nashwaak Village IF-0279 is an Atlantic Salmon and brook trout operation in Nashwaak Village IF-0605 is a rainbow trout operation in Lower St. Marys The owners and operators of each of the above inland aquaculture facilities should be formally contacted by the proponent, in order for the aquaculture facility representatives to have the opportunity to comment on the Sisson Project.	
114	Section 8.5 General	There may be eel fishing conducted at the mouth of the Nashwaak River. This should be verified. There are no reports from the DFO Fredericton Office of any eel pots on any of the tributaries of the Nashwaak River. There are no commercial fishing operations that would be impacted by the Sisson Project.	
115	Section 8.5 Page 8-136	Please provide the adaptive management strategy and mitigation plan referenced in the last bullet available for review.	
116	Section 8.5 Page 8-137	The report indicates that fish, relocated to other watercourses, would disperse if high fish densities were encountered. Is there a reference available to support this expectation?	
117	Section 8.5.1.4, Pages 8-142 and 8-145		Provide the approximate size in hectares of the Local Assessment Area and Regional Assessment Area as was done in the previous paragraph for the Project Development Area.
118	Section 8.5.1.5.1 Page 8-150) & Section 8.5.5 Page 8-238	References to NB **Fish & Wildlife Act** – while there are provisions related (primarily) to licensing and angling access under this Act, it is actually the Federal *Maritime Provinces Fishery Regulations* under the **Fisheries Act** that sets seasons, bag limits, length limits, gear restrictions, etc. for all fisheries in NB.	Please revise.
119	Section 8.5.1.5.1 Page 151	"Under the WAWA Regulation, permits are required for vegetation clearing, soil excavation, construction or landscaping activities within 30 m of a watercourse" – if this is meant to be a comprehensive list it is not and excludes any alterations related to water quantity such as water withdrawals.	
120	Section 8.5.1.5.1 Page 8-154	"Fishing is also permitted for <u>non-regulated</u> fish during periods of the year when a sport fishery is open." To clarify, these fish are called non-sport fish but they are still covered by regulation.	Please revise for clarification.

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121	Section 8.5.2.1 Page 8-154		Smallmouth bass should be added to the list of fish species known to inhabit the Nashwaak River.
122	Section 8.5.2.2 Page 8-157	It is assumed the third bullet indicating surveys undertaken should read 'quantitative' not 'qualitative'.	Please revise.
123	Section 8.5.2.2, Page 8-157	In the report, it stated: *"the 2012 aquatic field program included the following components: a second year of EEM baseline, not including benthic macroinvertebrates."* What is the reasoning for not conducting a benthic macroinvertebrate study during the 2012 field season?	
124	Section 8.5.2.2 Page 8-157	"detailed fish habitat and quantitative fish population survey of watercourses within the linear facilities corridor where relocations around the Project site are required;" – presumably "are required" is an error unless the work is incomplete. Has this work been conducted?	
125	Section 8.5.2.2 Page 8-158	Over time, bed load movement especially that related to significant rain events, could alter the stream profile and change the location, severity or number of pinch points. Has this been considered in respect to potential mitigation and/or the follow-up work? Will this be included in follow-up and monitoring plans?	
126	Section 8.5.2.3.1.3 Page 8-173	Why does the report indicate that the headwaters of McBean Brook were suitable for both warm and coldwater species, while Bird and Sisson brooks were only suitable for coldwater species when the range of temperatures for McBean Brook were lower than for the other two?	
127	Section 8.5.2.3.1.5 Page 8-181	The report indicates that the range of pH for the East Br. Napadogan Brook was 6.1-7.0 and that it was less than the CCME recommended range of 6.6-9.0. Are the values reported or the statement incorrect?	
128	Section 8.5.4.1.1.1 Page 8-200		The wording of the first sentence in the section should be changed from 'may' to 'will'.
129	Section 8.5.4.1.1.2 Page 8-200	With or without a fish relocation program, construction of the TSF and open pit will result in the direct mortality of fish.	Please revise document.
130	Section 8.5.4.1.2 Page 8-201		An additional bullet added to the list of primary environmental effects mechanisms should be the alteration of the original Sisson Brook channel, downstream of the PDA, as a result of impacts of the release of almost 200% of the original flow capacity of the channel.
131	Section 8.5.4.1.3 Page 8-204	Please provide more detail to clarify the last sentence in the first paragraph of the section. (restoration of site post-closure)	

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132	Section 8.5.4.1.3.2 Page 8-205	How will the effect discussed in the third paragraph of the section be mitigated? (meromictic conditions of pit lake and potential thermal layer turnover resulting in water with lower DO being released to receiving environment)	
133	Section 8.5.4.2.2 & Section 8.5.4.3.1.2	The issue of relocating fish from impacted streams needs greater discussion with regulators (DFO & DNR). There are potential logistic, population, ecosystem, and disease concerns, as well as other regulatory processes (Introductions and Transfers) to consider. Would all fish be relocated? Are other aquatic dependent species being relocated? How might relocation of fish impact follow-up or EEM studies?	
134	Section 8.5.2.3.2.1 Page 8-185	The report indicates that the densities of brook trout in the PDA and LAA are similar to those found in other parts of the Nashwaak watershed. Please provide data or a reference to confirm the statement.	
135	Section 8.5.4.2.2 Page 8-206	Will fish also be relocated from Tributary A West Branch Napadogan Brook within the PDA?	
136	Section 8.5.4.3.1.3 Page 8-209	While a spatial analysis of landscape level habitat variables may indicate potential habitat for brook trout, it does not address questions of quality of the habitat or densities of brook trout. How will these be considered?	
137	Section 8.5.4.3.2.2 Page 8-215	The report indicates that selenium concentrations in the West Br. Napadogan Brook are predicted to exceed CCME guidelines for approximately 10 years and then goes on to describe the exceedance as intermittent. Please explain.	
138	Section 8.5.4.3.2.3	Is there an expectation of species composition changes to favour warm water species as a result of lower flows, decreased temperatures and loss of groundwater inputs?	
139	Section 8.5.4.3.2.3 Page 8-221	The discussion with respect to the loss of Bird and Sisson as cold water refugia should also include a discussion of the impact of the release of relocated brook trout from the PDA on those remaining cold water sources.	
140	Section 8.5.4.3.2.3 Page 8-222	“Thus, the model indicates that the thermal events were prolonged under the predicted scenarios though there was one fewer thermal event, suggesting that the frequency of when brook trout would seek cold water refugia would not increase compared to the baseline data.” Frequency may not be the most appropriate indicator here – duration of the event is also critical. An overlap of events as the cause of the “reduction in events” is not a positive result. In this scenario, there is no period of recovery from the stressful thermal condition. Please comment.	
141	Section 8.5.4.3.2.3 Page 8-222 & 225	“the increase in water temperature in West Branch Napadogan Brook is not predicted to result in a change in thermal suitability for brook trout in West Branch Napadogan Brook as it is considered to be unsuitable as year-round habitat under current conditions” and “The Project is not predicted to increase the number of	Please revise.

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		events requiring brook trout to seek thermal refugia" - what is fair to say is that West Br. Napadogan is suitable Brook trout habitat at certain times of year and that the increased water temperatures will make it "less suitable"	
142	Section 8.5.4.3.2.7 Page 8-227	Is it anticipated that a change in benthic communities due to decreased flows will impact condition of fish?	
143	Section 8.5.4.3.2.2, pages 8-212-217	Under the reviews of each of the trace metals it is generally concluded that the long-term environmental effects are not significant. This conclusion appears to be based mainly on toxicity studies for each individual metal (as well as the duration of exposure etc). Please comment further on the possible environmental effects of all the metals of concern considered together.	
144	Section 8.5.4.3.2.2, pages 8-213-214	Under the fluoride discussion it should be recognized the all aquatic life (even the most sensitive organism) should be equally protected.	
145	Section 8.5.4.3.2.2, pages 8-213-214	Under the fluoride discussion it states that Adaptive Management measures may be used in the future should they be required. However, the water treatment plant has not been designed for fluoride removal. What would some options be should fluoride reductions be necessary?	
146	Section 8.5.4.3.2.2, page 8-214	Under the arsenic discussion the concentrations given for fish (550) and aquatic invertebrates (320) are effects based concentrations. According to BC guideline documentation for arsenic, other studies suggest a LOEC equivalent to 20 micrograms/L for Daphnia magna and a NOEC of 10.5 micrograms/L. It should be recognized that all aquatic life should be protected and that the proposed 10 micrograms/L guideline for this EIA could be approaching a minimum threshold to protect all aquatic life.	
147	Section 8.5.6.1.	Residual effects – where technically and economically feasible, why is it not proposed to treat effluents to approximate baseline conditions upon release to the environment, rather than meet a maximum guideline limit?	
148	Table 8.5.9, Page 8-220		Provide the units in the CCME FAL Guideline column.
149	Section 8.6	Wood Turtle: Work reported to date on wood turtle relies on incidental observation, with the result that none have been encountered. Despite these results, wood turtle are known to be present in the Nashwaak watershed, and can be expected to inhabit the project area. Although Section 28 prohibitions have yet to be applied to Wood Turtle, the Minister of Natural Resources has the authority to issue a Protection Order under Section 31 of NB SARA to prevent activities that will harm a SAR. What measures will be taken to prevent the incidental killing of Wood Turtle during all phases of project construction and operation?	

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150	Section 8.6	The Final Terms of Reference indicates that targeted surveys will be conducted for Wood Turtle. Please report on the status of this work.	
151	Section 8.6	All species listed as Extirpated, Endangered, or Threatened under NB SARA should be protected from harm by the project. General statements such as "avoidance to the extent feasible" are not considered appropriate given that the species are recognized as being at risk. For any direct encounter with SAR, the proponent is expected to propose measures to avoid incidental take. All decisions on mitigation measures regarding SAR must be developed in consultation with, and approved by, the appropriate regulatory authorities.	Please revise affected sections.
152	Section 8.6.2.5	The definition of SAR provided in Section 8.6.2.5 is incomplete. Under NB legislation, Species at Risk includes all species listed in Schedule A of the *List of Species at Risk Regulation* (88 species to date); it is not limited to the 15 species listed in Schedule A of NB SARA as reported. As such, additional species such as Eastern Meadowlark, Bobolink, Wood Thrush, among others, are SAR. The treatment of terrestrial SAR and SOCC need to be reviewed and adjusted accordingly.	
153	Section 8.6.2.6	Correction: the three bat species described on page 8-294 are listed under NB SARA.	Please revise.
154	Section 8.6.4	The NB SARA status of species provided in Table 8.6.4 needs to be updated to reflect NB SARA rather than the Endangered Species Act. The list of species included in this table may also require updating as a result of correcting the definition of SAR above. Eastern cougar is not listed under NB SARA and can be removed from Table 8.6.4.	
155	Section 8.8, page 8-371	The EIA Report should describe the importance of wetlands to First Nations, describing associated traditional values, species and uses.	
156	Section 8.8	What was the rationale for the LAA for wetlands being only the area within 45m of the PDA, given that the information clearly stated that the water table will be lowered up to 2km away from the center of the pit during operation, and therefore the potential for indirect impacts to wetlands is much greater? Page 8-421 states: "*The quantification of actual loss of wetlands resulting from this drawdown effect will rely on follow-up of wetlands across the gradient of the 2 km radius and beyond to include Trouser and Christmas Lakes. Figure 8.8.7 shows the approximate extent and nature of both direct and indirect environmental effects on wetlands."* Shouldn't the LAA include these areas?	
157	Section 8.8, page 8-409	Table 8.8.5 After construction and operation, follow-up is <u>required</u> to verify the outcome of compensation measures aimed at enhancing, maintaining and developing new wetland for direct losses due to construction and to operation as the pit and TSF expand.	

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		Please provide additional details regarding follow up and monitoring during operation to verify impact predictions and determine if addition compensation is required for wetlands in the LAA.	
158	Section 8.8.4.3.2, page 8-418	Page 8-418 states: "*More marginal forested wetlands such as black spruce dominated forested wetlands tend to be more prevalent in the PDA and LAA, but are typically not included in the GeoNB layer and compensation for loss of these wetlands is not required by NBDELG".* Clarification: compensation is required for these wetland types if they are mapped on GeoNB.	
159	Section 8.8 General	Discussions regarding potential wetland compensation activities and plans should start immediately during the EIA review and not wait until the permitting stages.	
160	Section 8.12	Has there been any consultation with the present user groups of Fire Road as to the acceptability and safety of the sharp turn at the bottom of the ridge that is being proposed? Is this curve acceptable for line of sight and width standards necessary to accommodate future off road forest trucks? Tandem Trailers? If this sharp curve is not acceptable to the existing user groups, does the company have an alternative pathway to propose?	
161	Section 8.12	Mine traffic is proposed to be not a significant impact; however, the proponent provides little evidence to conclude that Aboriginals, the public and camp lot lessees will not be affected during construction or mine operations. Please provide data to support this conclusion.	
162	Section 8.12	Access to the Napadogan Camp Lot Cluster could be affected by the relocation of Fire Road since the road section that will be relocated will likely no longer be maintained by Crown Timber Licence Holders. Will the proponent ensure maintenance of access roads to the Napadogan Camp Lot Cluster?	
163	Section 8.12	The report concludes that project impacts to adjacent camp lot lease holders will not be significant. However, it is nonetheless possible that lessees will be impacted by the project to such an extent that they will wish to relocate. Have there been any formal consultations with the lease holders in each of the two camp clusters in the region that may be affected by traffic, noise, twice daily explosion blasting activities, water table reductions, stream flow reductions or water quality issues? Consultation with lease holders of camp lots located in the vicinity of the project area is necessary for an appropriate assessment of potential project impacts to the lessees. Has the proponent contacted these lease holders? If so, what has been the level of consultation to date and what were the results of this consultation? If not, how and when will this be achieved? How will the proponent compensate existing camp lot lease holders that want to relocate due to the project impacts?	

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164	Section 8.12	How will the Crown be compensated for any future expenses that may be incurred to accommodate the relocation of some existing camp lot leaseholders to another camp lot cluster?	
165	Section 8.12 Page 8-525	Access constructed and/or managed by Crown Timber Licence Holders will certainly be affected given the size of the mine site; which may, in turn, impact access to Crown lands and to camp lots should any existing forest roads be abandoned. What mitigation to access to camp lot users is being proposed?	
166	Section 8.12 Page 8-525	The statement that rights-holders and the public alike will simply relocate to other Crown lands that are equally productive for recreational purposes and easily accessible is unsubstantiated. What mitigation is being proposed for loss of use of the area in and near the PDA?	
167	Section 8.12.1.5	The proximity of the mine may have an impact on the value of recreational camp lots as there will be a significant shift from recreational to industrial land use. What, if any, compensation is being proposed?	
168	Section 8.12	Due to the weight of the loaded trucks and oversized equipment being brought into the PDA during construction, will the existing forest roads and watercourse crossing infrastructures require upgrades to accommodate the added heavy traffic? If upgrades are required, will these be undertaken by the proponent?	
169	Section 8.12	Have maintenance agreements been reached with existing user groups for maintenance, repairs, upgrades, grading and snow removal on existing and new project access roads?	
170	Section 8.12	Please be advised that DNR does not guarantee accessibility to DNR designated roads and that forest roads are typically only maintained and open in the winter if the Crown Timber Licence Holders need them to access forest blocks.	
171	Section 8.12	The report should state which provisions will be in place to ensure public safety (e.g., signage on access roads advising public about diversions, closures and detours). Please be advised that the proponent must provide applicable safety and information signage for the new fire road alignment.	
172	Section 8.12.3	How will the blasting schedule be communicated to camp lot lessees during construction and throughout the life of the project?	
173	Section 8.12.3	Emissions and Wastes during construction and operations are deemed insignificant in the report; it is difficult to consider these conclusions objectively given the brief rationale provided. Please provide more detail and supporting data.	
174	Section 8.12.3	The statement that off-road vehicles could utilize the new transmission corridor as an alternative access is misleading as authorization would be required to utilize this corridor.	Please remove this statement.
175	Section 8.12.4.1	This paragraph includes the statement "*There is no known agricultural land use in the PDA*." This is correct for the Project site area. However the full PDA also	

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		includes the widening of the existing 345kV transmission line corridor to include the new 138kV line, running down to the Keswick Terminal station. Some of the private land that will be impacted to install the 138 kV electrical transmission line is being used for agriculture. This is at least the case for some properties immediately adjacent to the Keswick Terminal.	
176	Section 8.12.4.2 Page 8-546	The new 138kV power line appears to encroach on a recreational campsite lease within the Grand John Brook Cluster. Further investigation and discussion are required. Have the leaseholders of the Grand John Brook camp lot cluster been made aware of the proposed Transmission line corridor expansion directly adjacent to the cluster?	
177	Section 8.12.4.3	"*The remaining portion of the PDA is private land along the 138 kV electrical transmission line*." See comment under 8.12.4.1. Figure 3.3.5 shows the preferred Route A for this 138 kV line, but this figure does not extend completely to the Keswick Terminal. As such it is not possible to identify with certainty all agricultural lands that will be impacted by this line. For example the following PIDs in that area are currently farmed or are in use for agricultural operations: 75152934, 75228718, 75139261, 75228809, and 75141093.	Please include a detailed map of the area surrounding the Keswick Terminal to show exactly which transmission corridor is being targeted for a 25 m widening. Please show clearly the properties required and indicate all access routes to be used during construction.
178	Section 8.12.4.3	The statement that the Department of Natural Resources would *"…, determine that the use of the PDA for the Project is in the best interest of New Brunswick and is an acceptable use of Crown land…*" is inappropriate under the circumstances as the Project is currently under review.	Please remove this statement.
179	Section 8.12.4.3	The selected studies used to conclude that real estate would be positively impacted are questionable in terms of their relevance to this Project (i.e. the construction of a new mine vs. quarry operations and the reopening of a mine). Please provide alternative justification for these conclusions or revise the conclusions appropriately.	
180	Section 8.12.4.3	Will the proponent have any limits to forest management activities adjacent to the PDA footprint?	
181	Section 8.12.4.3 Page 8-361	There is substantial silviculture investment within the current PDA. The EIA Report should mention that the proponent must compensate NBDNR for any silviculture damaged of lost as depicted in the Loss of Silviculture Area Policy. Discussion with DNR is required to address this compensation. Martin Noel of NBDNR can provide cost estimates if required.	
182	Section 8.13, page 8-559	The report states*: "Northcliff will work to optimize training, employment, and business opportunities of the Project for Aboriginal people."* • How did Northcliff calculate employment figures during construction, operation and decommissioning?	

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		• How many Aboriginal-specific positions will be created, in total and as a proportion of the workforce (part-time and full-time; temporary and permanent)? • What are the associated skill levels and salary ranges for these jobs? • What types of educational and training programs will be established for the First Nations during pre-, current and post-construction (e.g., apprenticeships, scholarships, mentoring)? • What other proposals are being considered that may benefit the First Nations (e.g., procurement strategies, joint ventures, revenue-sharing)? • Have these initiatives been negotiated as part of an Impact Benefit Agreement (IBAs) or other agreement between Northcliff and the First Nations? Are these agreements conditional on First Nations approval or neutrality with respect to the project? Will this information be shared with the Crown? If not, why?	
183	Section 8.13, page 8-559 & 8-573	The report states "The Project will result in the loss of access to, or use of, land and resources in the Project Development Area (PDA*..." and that [it is] "of concern to Aboriginal communities in New Brunswick because they could result in a loss of access to, or use of, areas currently used for traditional purposes by Aboriginal persons." The report also states that "Aboriginal persons report that they use the lands and resources of the general area of the Project, but there are no features of the Project that would limit such use from occurring in nearby areas to the Project."* The assumption that rights-holders will simply relocate to other Crown lands that are equally productive for current use of land and resources for traditional purposes and is easily accessible is unsubstantiated. What mitigation is being proposed for loss of use of the area in and near the PDA? • How was it determined that Aboriginal loss of use in the proposed project area could be easily or readily practiced in nearby areas? The statement above is in conflict with the following quotation below seems to suggest the opposite. Page 8-573: The report states *"The general area of the Project is considered to be an important area to the Maliseet's ability [to] conduct traditional practices, and is*	

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		considered to be one of the last remaining large areas accessible for traditional uses with a diverse number of resources (Moccasin Flower Consulting 2013).” • Why would it be suggested that FNs could use lands and resources in nearby areas when the IKS states that the Project area is one of the last remaining large areas to do so? • Why is it suggested land substitutability or fragmenting landscape as a feasible option for First Nations when plants and landscapes of cultural significance to First Nations may be affected by the proposed project area and not found or readily available in adjacent areas?	
184	Section 8.13.1.1, page 561	Second paragraph, last sentence: please revise to reflect ongoing discussions with First Nations and the Crown.	Suggested Change: “…and considerable discussion with First Nations’ representatives and regulatory agencies continues to be carried out to define the archaeological program and respond to these issues and concerns as part of the EIA and Project design.”
185	Section 8.13.1.5, page 566	This section concludes: *“Since this knowledge is largely obtained through engagement and through interviews with Aboriginal knowledge holders, this form of data collection presents a technical limitation as to the comprehensiveness of the information provided”.* Please explain in detail the technical limitations. Please quantify the environmental impacts of the Project on the current use of land and resources for traditional purposes, to the extent possible given the available information.	
186	Section 8.13 & General	Many conclusions in the EIA Report are based on a presumption that adverse impacts will be mitigated / offset by the surrounding environment. Does Northcliff have assurances that Crown land will be maintained in its current state, to provide these ecological subsidies?	
187	Section 8.13, page 8-559	The report states that *“...consequently, while there is the potential for residual environmental effects of the Current Use of Land & Resources for Traditional Purposes by Aboriginal Persons from the presence of the Project itself and that activities carried out in support of it, those environmental effects, including cumulative environmental effects, have been rated not significant.”* • How was the conclusion of “not significant” reached throughout the current use section when it is clearly indicated that the project *“...could result in a loss of access to, or use of, areas currently used for traditional purposes by Aboriginal persons?”*	
188	Section 8.13.4	In terms of mitigation or compensation measures, the proponent makes references to the provision of information to Crown licensees (including Aboriginal licensees).	Please revise statement.

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		First Nations communities, in the context of Commercial Harvesting Agreements with the Department, are considered “permittees”; and Crown Timber Licensees oversee First Nations commercial harvests on Crown lands in accordance with the Commercial Harvesting Agreements between the Department and each community.	
189	Section 8.13.3, pages 8-573 & 8-574	Table 8.13.3 characterizes all aspects of Operation and Decommissioning, Reclamation and Closure as 0 or 1, briefly defined as no impact and impact without significant environmental effect, respectively. How is the removal of 1000 hectares of Crown Land area from any potential future use by First Nations for traditional purposes considered not significant?	
190	Section 8.13.4, page 8-579	In Table 8.13.4, the Residual Environmental Effects Characteristic of Reversibility is characterized as “reversible”. How is the construction of the open pit and TSF considered reversible?	
191	Section 8.13.4, page 8-577	Last paragraph states*: “The interactions, however, will be positive, as these activities may restore much of the PDA conditions similar to a largely pre-development state, including providing resumed access to portions of the PDA for carrying out traditional Aboriginal land and resource use activities.”* • Quantify “much”. • In the absence of adequate and detailed reclamation plans and monitoring programs, how does the proponent justify that reclamation activities will be positive? • How will the open pit area be restored to a stage of “use” of land and resources for traditional purposes by First Nations? • How will the TSF area be restored to a stage of “use” of land and resources for traditional purposes by First Nations?	
192	Section 8.13.4, page 8-579	Table 8.13.4 should include characterization of all phases of the Project, not just Construction. Any residual environmental effects created at the Operation phase will carry through to subsequent phases; therefore, all phases must be considered in the assessment.	Reconsider the analysis of potential environmental effects for all phases of the Project and review conclusions of significance.
193	Section 8.13.4	The report states that the proponent will work with First Nations and appropriate government agencies to facilitate harvests of resources used for traditional purposes in the PDA prior to site development. This should be substantiated in terms of which agencies, and the types and quantities of resources involved.	
194	Section 8.13.5	Why were the environmental impacts of future mineral and petroleum development not considered in cumulative environmental effects, in addition to agriculture, forestry and recreation?	
195	Section 8.13.5	Why was a sensitivity analysis to determine how predictions about environmental impacts might be affected by various development scenarios not conducted?	

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196	Section 8.13.5	The proposed project will increase the infrastructure and access to the project area, perhaps making it more attractive for future industrial development. Why was a cumulative effects analysis of historical, current and future development not conducted?	
197	Section 8.13.6.2, page 8-590	On what basis is the conclusion that *"the management of Crown Land in a way that reflects and mitigates Aboriginal interests"* made? Five percent of the AAC being devoted to First Nations is in no way related to the impacts of this Project to Current Use of Land and Resources for Traditional Purposes by Aboriginal People.	Reconsider the analysis of potential environmental cumulative effects for the Project and all other reasonably likely future activities in the area and review conclusions of significance
198	Section 8.13.7, page 8-590	Follow up and Monitoring for potential environmental effects on Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons must be developed and included.	
199	Section 8.14 (pg. 8-591) Last Paragraph Section 8.14.1.5 (pg. 8-601) 2nd Paragraph +Various other places in the document	*"Sub-surface shovel testing will be completed prior to construction…"* Heritage Branch does not accept this approach, in order for an accurate determination to be made on potential impacts to Heritage Resources, Heritage Branch requires a completed assessment be provided for consideration in order to make an informed determination. To date less than 20% of the requisite test pitting has been completed and reported – statistically no valid conclusions can be drawn on the archaeological potential of the study area.	Complete sub-surface shovel testing and submit results for consideration prior to final project determination.
200	Figure 8.14.3/Page 8-604	This schematic shows the requisite steps for the complete assessment, rather than the field assessment and makes clear the expected progression to final determination – Assessment Completed – Province Accepts Report – No Further Archaeological Assessment or Mitigation is Required – Archaeological Assessment Complete – EIA Approval – Project Permits Issued – Construction Begins.	Heritage Branch agrees with this approach – it is what all projects are subjected to and represents the process by which Heritage Branch bases its recommendation final determination. This approach should be reflected in the body of the text as well.
201	Section 8.14 (pg. 8-592) First Paragraph Section 8.14.6.1. Page 8-628 Last Paragraph +Many other places in the document	*"Overall, given that no Heritage Resources are known to be present in the PDA…the Project will not have a significant environmental effect on Heritage Resources ."* As above, there have been no previous studies of the research area, and the Archaeological Assessment for this project is less than 20% completed. It is not possible to make this determination – an absence of information cannot ethically be interpreted as evidence of absence of Heritage Resources.	Either complete sub-surface testing and base assertions of potential impacts on that assessment or remove determinations of significance and effects on the resource based on the incomplete assessment.

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202	Section 8.14.1.1 (pg. 8-593) Second Paragraph	Reference to repeated engagement and consultation with First Nations and regulatory agencies - At all levels of consultation and engagement, the requirement to complete the Archaeological Impact Assessment has been stressed and this is recorded in the minutes of those discussions, yet there is no mention of this in the document, and no attempt is made to address this consistent requirement in the draft EIA.	Address this requirement from Heritage Branch, and demand from First Nations.
203	Section 8.14.1.1 (pg. 8-593) Fourth Paragraph	*"Archaeological Services requested that, in addition to all areas identified by the archaeological potential map…had previously contained large water bodies or lakes (e.g. post-glacial lakes)…"* Archaeological Services also requested that the potential for paleo-channels be assessed.	Clarify whether the potential for paleo-drainage or flow-channels were assessed in the field and during the LIDAR interpretation.
204	Section 8.14.1.1 (Page 8.593) Fifth Paragraph	7th Line, *"indicted" rather than "indicated".* Here and elsewhere many typographic errors and spelling mistakes in the Heritage Resources section and the Heritage Baseline Study. Notable example includes consistent misspelling of George Frederick Clarke's name.	Thorough copy-edit of text suggested.
205	Section 8.14.1.5 (pg. 8-601) Paragraph 4	*"Archaeological survey and permitting for studying these resources are described … and determined in consultation with officials at the NBM."* - This should read "Paleontological" not "Archaeological"	Correct error.
206	Section 8.14.1.5 (pg. 8-601) Paragraph 5	*"There are no protected heritage resources within or near the PDA."* Whether known or not, the resources (archaeological and/or paleontological) are protected under the Heritage Conservation Act.	Amend section to reflect that while no resources are currently known, if any do exist they are protected by the Heritage Conservation Act.
207	Section 8.14.1.5 (pg. 8-602) Paragraph 1	Reference to *"if no known professional surveys or public finds exist then no recorded sites will exist"* - A large volume of our records exist from early non-professional surveys by Natural Historians working with public institutions – this is a third and very important resource to consider and must be reflected as the third source of information.	Revise to include third clause for Natural Historians for characterizing when recorded sites exist.
208	Section 8.14 General	The report contains no discussion of how final number of recommended test pits was achieved, no discussion of scope of work completed vs. work outstanding.	In order for the discussion to be open and transparent, some reference must be made to the locations selected for testing – vs. the Potential mapping. Provide details of how the final number and locations were reached.
209	Section 8.14 General	There is the potential for built heritage resources to be identified during the assessment and/or over the life of the project	Include built heritage resources in the development of mitigation and/or response protocols/compensation.
210	8.14.1.1. Pg 8-592 3rd paragraph	A heritage resource does not have to be *"recovered from the ground surface or below…"*	Remover the word "recovered"

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211	8.14.1.1. Pg 8-592 4th paragraph	The statement Architectural resources (also known as "built heritage") is slightly off, architectural resources are a component of built heritage, as are landscapes.	Revise document to reflect that architectural resources are a component of built heritage.
212	8.14.1.4 Pg 8-594	Potentially, interactions and/or impacts to built heritage resources can occur beyond sub-surface ground disturbance that is limited to a Project footprint. For example if this mine or the transmission line was built adjacent to Kings Landing or a historic attraction such as the Village Historique, there may be impacts to those resources. Similarly activity and related impacts during phases other than construction, such as during operations, maintenance and decommissioning could, potentially, impact built heritage resources.	These points should be reflected in the body and tables of the documents. Confirm no impacts to built heritage resources will occur from any Project component.
213	8.14.2.1 Pg 8-607 1st paragraph	What is the current state of the old round house and old railway office in Napadogan?	Include photos and description of the current state of the old round house and old railway office in Napadogan.
214	8.14.2.1. Pg 8-607	Individuals such as Premier James Kidd Flemming and Alexander "Boss" Gibson may be considered provincially significant historical figures.	What are the associated heritage resources or issues with these individuals?
215	Section 8.14.4.2 2nd paragraph Pg 8-625	A consistent definition for heritage resource and built heritage resource should be used throughout the document. For example the Baseline Heritage Resources Technical Report includes landscapes in built heritage resources (pg 1), but this concept is not apparent in the EIA Report. Currently in the document the terms heritage resource, archaeological resource, paleontological, architectural, built heritage resources are sometimes used inappropriately or ambiguously, for example: *…. In the unlikely event that a heritage resource is discovered as part of the Project, a heritage resources response procedure as outlined in the ESMS will be invoked and all work in the affected area will cease until the find can be assessed by a professional archaeologist or the NBM, as applicable.* pg 8-595 Heritage resource in this example would seem to refer to archaeological or palaeontological resources, but not built heritage, even though built heritage is define as part of "heritage resources" in some sections.	Built heritage resources should be defined as including buildings, structures and landscapes that are either designated by an authority or eligible for designation. Places association with significant historic events, significant historical persons or technological developments should be considered as well as built heritage resource issues and concerns associated with those resources. Refrain from using the term "heritage resource" unless all sub-categories of resources are being considered. If only a specific sub-category of heritage resource is being referred to, appropriately identify that category of resource.
216	Section 8.17	Has the proponent made alternate access plans to remove stranded workers due to severe storms, road blockages, washouts, etc.?	
217	Section 8.17	What is the proposed safety buffer from the two planned blasting zones: the quarry and the mine pit? How will the company inform the public or other user groups (hunters, fishers, hikers etc.) of this safety buffer? How will the company monitor the	

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		buffer zones for any trespass during critical blasting activities?	
218	Section 8.17	Will earth berms be constructed around any open pit, quarry or hole to reduce the probability of wildlife or human fatalities during the construction, operation and decommissioning phases?	
219	Section 8.17.2.1.1	The report states that “At Sisson, a failure of the TSF embankment and resultant tailings or process water release could significantly affect downstream watercourses and habitats that have substantial ecological and societal value, and the hazard classification of the Sisson TSF was therefore set to ensure a design that will protect these values.” It is understood that, due to the proposed standards and rigorous construction methods, a significant failure of the tailings storage facility embankment leading to the release of large quantities of mine contact water and/or tailings into the receiving environment is unlikely. However, were it to occur, what are the expected environmental impacts of such a failure? What are the proposed contingency and emergency measures to address this scenario?	
220	Section 8.17.3.5	Pump Failure - What is the likelihood that more than one or all water management pond overflow at the same time? What type of rain event would create such a scenario? How often (minimum frequency) will the ponds be visually inspected? How about the level control and level alarm equipment?	
221	Figure 9.4.1, Page 9-8		Provide a better detailed map depicting the two reference stations as their locations are not clear in the inset map.
222	Section 9.4.3.1	The regular removals of brook trout (specifically spawning contributors) for the various fish tissue studies could potentially have impacts on brook trout populations and by extension, any planned or comparative population studies. In addition, it could also manifest itself in “use” (decreased catch/effort).	
223	Section 9.4.3.1.1	Verification of temperature monitoring: installation of permanent temperature logger(s) should be implemented as part of this program.	
224	Section 9.4.3.1.4	What alternatives are proposed if the salmon run and/or environmental conditions do not allow a spawner survey?	
225			
226	Section 9.4.4.1	Atmospheric Environment - The approval to operate will require source testing major point sources (dust collector of primary crusher, boiler stack, scrubbers, etc.)	

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227	Section 9.4.4.3.5	Verification of changes in fish populations must take into consideration any potential changes that could be related to 1) direct & indirect removals from the population related to fish tissue studies; 2) potential additions to the population from relocated fish.	
228	Section 9.4.4.3.5, Page 9-23	It would be beneficial to add another sampling site located in the West Branch Napadogan Brook downstream of the confluence of Bird brook to fully capture any 'seepage exposed sites.'	
229	Section 9.4.5	Follow-up during Closure - The frequency of the biological monitoring during the filling of the open pit will be 72 months. Six years is beyond the life expectancy of brook trout. Does this have an impact on how results/impacts might be interpreted? For example, a single or multiple year class failure as a result of an accidental release, exposure, etc. might not be detected.	
230	Appendix E Page 18	Field verification of the impact of the Lower Lake Dam to fish passage would be useful in evaluating the removal of the dam as compensation for the loss of Tributary A, Bird and Sisson brooks.	
231	Appendix E	How were the First Nations involved in the discussions for HADD compensation and the development of HADD options? What was the preferred option(s) suggested by the First Nations and how was it considered?	
232	Appendix E	Why wasn't a "like-for-like" fish habitat compensation scenario developed, or described as options in the EIA Report?	
233	Appendix E	Why haven't alternative compensation scenarios been presented? If the removal of Lower Lake Dam does not achieve expected compensation rates, what are the back-up plans?	
234	Appendix E	Will the substitution of "unlike" for "like" fish habitat pose any problems or limitations to the First Nations, with regard to traditional activities like fishing and hunting? Will the First Nations be able to use "unlike" habitat as they would "like" habitat or current sites, i.e., are they equivalent with respect to habitat quality, species composition, population levels, accessibility and proximity to First Nations communities?	
235	Appendix E	The report states that consumption rates of traditional foods in the project area constitute a higher proportion of the First Nations diet than Non-Aboriginals (e.g., 100% of game, 20% of fish, and 10% of vegetation are obtained from PDA – Section 8.9). How will the project affect these percentages? Will "unlike" compensation reduce these percentages?	
236	Appendix I	MLARD Potential Characterization Report - It is mentioned that SRK was to investigate a treatment process to remove arsenic and antimony only. Why were the	

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		other elements of concern (other metals, fluoride, sodium), which are predicted to be above CEQG in the receiving environment not considered for treatment?	

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237	Section 3.2.3.5 P. 3-20:	Reagents and chemicals for the process plans are referred to in 3.2.3.5, but are not specifically identified. Please identify the reagents that will be used. While this section notes that spill recover sump pumps will be provided as needed, there is no information concerning whether any reagents and process chemicals are volatile and could lead to emissions to air. If these reagents could enter soil, groundwater, surface water, plants, animals or fish as a result of normal operations they should be evaluated as COPCs in the HHRA. If they have potential to be released during an accident, malfunction or unplanned event, then this possibility should be assessed.	
238	Section 3 Page 3-134 Table 3.4.31	"Average Trace Metals Concentration in the Ore" Why was the approximate 210 drill samples not used in the average reported in that table? Please fully disclose all trace metals relevant to human health	
239	Section 3 Page 3-134 Table 3.4.31	"Average Trace Metals Concentration in the Ore" The trace metal values are taken from a limited drilling samples (39 out of 304) extracted for MLARD characterization. The drilling was intended to quantify metal leaching rocks. There is no evaluation on the trace metals done randomly across the entire pit area. It is important to have a clear understanding of the quantity of all trace elements present as they will be mobilized during operation and released from their underground resting state to be eventually transferred to the TSF. The location of those 39 selected drill cores provided by SRK does not cover the entire pit area. It is important to quantify the trace metals and their concentration in the ore body. Core drilling was done in the past "historical drill collars" (fig 10-1 page 71, Sisson 43-101 Technical Report Final March 2013) The historical drill collars cover a wider area of the proposed pit. Please substantiate why the entire pit area was not sampled, which would be more representative of the trace elements found in the TSF.	

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		What are the results of the trace elements analysis for the other “historical drill collars”? Please report the sampling results of trace elements for old drill collars which were collected from the entire pit area.	
240	Section 3	A description of waste water treatment is needed to understand how the wastewater will be treated. What reagents will be needed to treat waste water prior to release? What are the waste products of the treatment? How will they be managed? Please provide description of waste water treatment.	
241	Section 3	Please provide the expected efficiency of the Ammonia and Hydrogen Sulphide scrubbers?	
242	Section 3	As water will be extensively used onsite for dust control, there is a need to have adequate evaluation of water usage for the entire site. There is no water evaluation in the EIA. Please provide a detailed calculation of water usage on the project site during construction and operation.	
243	Section 3	Dust Control at various ore processing points. This information is dispersed throughout Section 3. A Graphic and table depicting exactly the engineering controls for dust should be part of the EIA. Please provide details for dust controls and % efficiency expected to be achieved with dust control must be stated.	
244	Section 3 Page 3-134 Table 3.4.31	For the sake of clarity for reviewers, units shall be consistent throughout the EIA. For example, values should be consistently expressed on a mass/mass basis (soil, sediment, vegetation, fish, meat, etc.), or mass/volume basis (air, water).”	
245	Section 3 Page 3-4	The EIA states that “approximately 210 drilled holes were completed” The MLRAD report from SRK reports 184 samples taken from 39 drill core out of 304. That leaves 94 drill cores unaccounted for. If 210 holes were drilled as reported by the proponent, why is there only 184 trace metals results reported from 39 drill collars? Why is the number approximate? Please clarify the source of information for trace metals. Are these from the same drill core samples?	
246	Section 3.4.1.8 &	The report states that: *“workers may be working for NB based construction firms, working for rims from outside the province coming to deal with specific aspects of the*	

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	8.10.3	*construction or provide engineering supervision or employees of the mine owner or engineering firms associated with the Project but working outside New Brunswick."* (Section 3.4.1.8). It also states*: "The Project **will likely** meet labour requirements in Construction by the existing labour force in New Brunswick, supplemented by labour from elsewhere in Eastern Canada."* (Section 8.10.3) What percentage of the work force for construction and operations, respectively, can the proponent confirm will be allocated specifically to the labour force within New Brunswick? How many jobs will be created for New Brunswick citizens?	
247	Section 3 Page 3-131	The proponent has not released any calculation data for their H2S, NH3, (and SO2) emissions determination. These chemicals are of great importance for health considerations. Please provide the calculations to validate the accuracy of the predictions and accuracy of the predictive modeling.	
248	Section 3	The trace metals have not been quantified in the overburden (SRK results). Since the overburden will be substantial, the trace metals must be reported for the project area and considered in the report.	
249	Section 3 Page 3-121	What will be the chemicals and quantities for the milling process on site? What quantity of fuel will be kept onsite? The proponent should state the name and quantities of chemicals stored on site, and any plans to manage them. In addition, please provide a rationale for not considering them to be COPCs, at least in the initial screening (see Sec. 7.7.2.1.1).	
250	Section 3.2.5.5	This will need to be an engineered system based on the estimated daily sewage flow being greater than 5460 L/day. Subsurface on-site sewage systems must be approved by either the Department of Health.	
251	Section 3.4 Page 3-134 Table 3.4.31	The reviewer was unable to determine how trace metal concentrations for lead, arsenic and manganese were calculated. Please describe the calculation, and provide the source data so that the reviewer can verify the calculation. Please provide calculation details for trace elements to permit verification by the reviewer.	
252	Section 3.4 Page 3-134 Table 3.4.31	Table 3.4.31 Average Trace Metals Concentration in the Ore The title of this table is misleading. The values do not represented the ore body but areas of interest where Metal Leaching rock could be a concern.	

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		Please provide calculation details for trace elements to permit verification by the reviewer. Rename Table 3.4.31 “Trace metals in the core samples collected in Metal Leaching Drill Collars”	
253	Section 3.4 Page 3-134 Table 3.4.31	Why is the result of overburden not reported The computation of the risk associated with As does not take in consideration the higher than reported value and the overburden. Explain why arsenic in the overburden is not included in the EIA. Proponent has to demonstrate that the higher value of Arsenic and the As contained in the overburden does not affect the modeled risk linked to Arsenic	
254	Section 3.4.1.1.4	***“Grubbing includes the removal and disposal of stumps and roots remaining after clearing. Grubbing will be conducted using a root rake or similar equipment that is able to remove the roots and stumps of cleared vegetation and leaves the topsoil for salvage. The areas associated with the ore processing plant, the TSF embankments, and other surface facilities (e.g., roadways) will be grubbed, whereas the TSF area itself will not be prepared further beyond clearing and removal of merchantable timber.” (Emphasis added)*** Will the lack of grubbing of the TSF area lead to a significant risk of mobilization of inorganic mercury (Hg) from the remaining vegetation and soil in the form of organic methyl mercury compounds once the area is flooded (since the TSF disposal will be sub-aqueous)? This is a well-known issue in hydroelectric dam construction (see e.g. http://www.ec.gc.ca/mercure-mercury/default.asp?lang=En&n=67E16201-1#mercurymethylation). What is the risk of mercury mobilization, and is grubbing the land that will be submerged by the TSF (as is often done in the future headpond areas of dams) necessary as a preventative action?	
255	Table 3.4.22	P. 3-131: Table 3.4.22 indicates that triisooctylamine will be emitted from the ammonium paratungstate (APT) plant. The HHRA should evaluate this substance (and any other substances that may be emitted from the APT plant) as a possible COPC within the COPC screening process. P. 7-118 (Discussion of COPCs): This discussion should also note that, as for soil and surface water, changes in groundwater quality can affect COPC concentrations in surface water, plants, game and fish.	

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256	Section 3.4.2.2.3, page 3-118-119 & Section 3.4.2.3.1., page 3-121 & Section 3.4.2.5.4, page 1-137	The report states that "*gypsum residue*", "*aqueous solution effluent from the ammonium tungstate conversion*", *"filtre cake*", and "*raffinate*" will be stored in lined containment ponds within the TSF. What is the chemical composition of these wastes once disposed of in the TSF? How will it be ensured that these wastes remain encapsulated in perpetuity? What are the implications to water treatment if these wastes should mix with other TSF slurry? What are the implications to the receiving environment (watercourses) in the event of a rupture or leak of these wastes during a catastrophic event?	
257	Section 3.4.2.2.3, page 3-118	The report states that the *"sodium tungstate solution will be processed through an alkali recovery and purification process. Common impurities will be removed and stored for disposal at an approved offsite facility."* What are the "common impurities" and where will they be "stored"?	
258	Section 3.4.2.2.3, page 3-119	Fourth paragraph states: *"Sulphuric acid, ammonium hydroxide and an organic solvent are used in the extraction, and these reagents are recovered and recycled in the process."* What is the organic solvent specifically? What are the recovery rates? Loss rates? What is the ultimate fate of these losses? What treatments are applied to these recovery losses?	
259	Section 3.4.2.2.4, page 3-120	What is the expected shipping frequency of the molybdenum concentrate? The APT crystals bins?	
260	Section 3.4.2.2., page 3-120-121	What are the expected volumes of reagents and other components (e.g., fuel oil, pine oil, MIBC, fatty acid, frother, PAX, quebracho and flocculant, etc.) to be used? What will be the storage capacity on site? What will be the shipping frequency of these reagents and components?	
261	Section 3.4.2.3.2, page 3-124	In Figure 3.4.9 Schematic of Mine Operational Water Balance, #s 17 and 19 refer to seepage lost from the TSF and the water management ponds, respectively. Please quantify these expected losses and indicate what the expected impacts to the receiving environment will be.	
262	Section 3.4.3.2.2, page 3-142	Following the bullets at the top of this page, the 2nd and 4th paragraphs are contradictory with regard to future commercial forestry use. Please clarify.	Revise where necessary.
263	Section 3.4.3.2.3, page 3-142	This section very briefly describes Closure of the TSF, quarry, water management ponds and open pit. Why were no alternate options for closure explored or discussed? For example, another option that may be viable is to completely dewater the TSF after decommissioning and cap with overburden and re-establish vegetation as part of the	

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		reclamation process. This would eliminate the exposure of PAG materials and reduce the water treatment needs. It may also alleviate some of the risk of future issues with embankment stability. Please provide a discussion of the feasibility of this option for reclamation and closure.	
264	Section 4.1.1.2, page 4-4		Prior to last bullet add: • Report and recommendation prepared by Minister for consideration of Lieutenant-Governor in Council
265	Section 4.1.1.3, page 4-4	The statement in the first paragraph: *"They have also agreed that a single EIA Report prepared by the Proponent to meet the requirements of the Terms of Reference would suffice to fulfill the respective provincial and federal EIA requirements"* is inaccurate. This "agreement" was reached prior to the proponent's decision to submit the EIA document to both governments at the same time. This removed the possibility of having issues addressed and a revised EIA report submitted for simultaneous commencement of the respective Crown public consultation requirements. As it now stands, the document accepted by CEAA is not the same document that will be accepted by the provincial Minister (DELG). The draft EIA report must be revised under the provincial process, which will result in two separate and distinct documents being released to the public by respective regulators prior to regulatory decisions on the Project.	Remove this statement.
266	Section 4.3.1.2.1, page 4-24	Please provide the MNCC 2013 document referenced in this section.	
267	Section 4.3.1.2.3, page 4-26	Table 4.3.1: Remove the last entry dated December 5, 2012 or clearly iterate in the table itself that this <u>was not</u> a consultation meeting. The record clearly shows that this was agreed to during the meeting between Northcliff representatives and the provincial Crown representatives.	
268	Section 4.3.2, page 4-27	Please provide a comprehensive listing of all issues and concerns raised by stakeholders and members of the public, including dates and venue where issues/concerns were raised.	
269	Section 4.3.2, page 4-27	Please provide a comprehensive listing of all issues and concerns raised by First Nations, including dates and venue where issues/concerns were raised.	
270	Section 4.3.2, page 4-27	When can the detailed report outlining consultation and engagement activities be expected? This document is a necessary component of the EIA report and requires review along with the report prior to acceptance of the report by the Minister.	

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271	Section 6.1	Under the Safety category, the issue of rapidity of access to emergency response services should be added, not only the communication concern.	
272	Section 6.4.5.3.2, page 6-57	RCMP local attachments exist in Nackawic and Mouth of Keswick (Keswick Landing) and should be included since they are also in relatively close proximity to the Project site. Are there other local detachments that should be included as well?	Revise to include detachments in Nackawic and Keswick.
273	Section 6.4.5.3.3, page 6-57	The Town of Nackawic and the community of Keswick Ridge also have fire departments and these should be included since they are also in relatively close proximity to the Project site. Are there other fire departments (volunteer) that should be included as well?	Revise to include fire departments in Nackawic and Keswick Ridge.
274	Section 7 P. 7-118	(Discussion of COPCs): This discussion should also note that, as for soil and surface water, changes in groundwater quality can affect COPC concentrations in surface water, plants, game and fish.	
275	Section 7 P. 7-121	Please clarify the reference to USEPA (2007), "Ecological Soil Screening Levels, 2007". No document could be located with this name. Although several related rationale documents for individual substances were identified online, they do not appear to have been finalized (marked as "Interim Final"). *See below.	
276	Section 7.4	**Communities and Infrastructure:** It is stated that "The communities near the Sisson project … offer extensive health care services in emergency and ongoing health fields." Please provide specific and detailed information on the level of services currently available and an evaluation as to whether the current capacity is adequate to cover any emergency.	
277	Section 7.5	**Labour and Economy:** Increased demand by mine workers on general services, accommodations (hotels and more permanent lodging – such as apartments and houses), food (supermarket, restaurants) in the surrounding area and the region is likely to have impacts, both positive and negative. For example, local residents might end up paying increasing prices for basic commodities (inflated real estate values, high rental prices, high price of food, etc.). Please provide further analysis of these types of issues in the context of the project.	
278	Section 7.6.1.1.2	Clarification needed re the statement in this section that "Tailings will be selectively deposited from the crest of the TSF embankments to develop tailings beaches, which will function as an extensive low permeability zone to mitigate seepage through the embankments." Are there any other mitigation measures (e.g. impermeable liners etc.) planned as part of TSF embankment construction? Elsewhere in the document there are descriptions of water management ponds and pump-back systems, etc., as well as a few lined cells	

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		within the TSF for certain wastes, but is there any additional primary prevention of seepage from the TSF as a whole besides tailings beaches? If not, why?	
279	Section 7 Table 7.7.1 P. 7-122	Health Canada's drinking water guideline for sodium is an aesthetic objective (AO) and this was used to exclude sodium as a COPC in drinking water. However, sodium can be a public health concern in drinking water at lower concentrations, and some provincial legislation reflects this. For example, in Ontario the Safe Drinking Water Act requires municipalities to test regularly for sodium and report results greater than 20 mg/L to the Medical Officer of Health.	
280	Section 7 Table 7.7.1 P. 7-123	Please explain in detail how "toxic potential by receptor" was evaluated for the human health category. For example, why are cobalt, cadmium, mercury and nickel not identified in this category? The reviewer notes that a substance can be identified as a concern for human health even with no "Guideline Exceedence"; see lead, for example. Similarly, please clarify the criteria that make a substance "inherently of interest."	
281	Section 7 P. 7-127	This table expresses model results to three significant figures. Does the precision of the model input data and assumptions support this? This table exemplifies a general concern regarding the level of precision to which model predictions and risk estimates are expressed. In general, the number of significant figures in the output should reflect the least precisely known input variable.	
282	Section 7 P. 7-137	The concentrations of some substances in fish, for example methylmercury, will vary with species and size. The report should confirm that the size and species of fish assumed for the exposure predictions reflect the size and species of fish most likely to be consumed from within the study area. Are fish as small as 9 cm in length consumed (fish greater than this minimum length are stated to be included in the analysis).	
283	Section 7 P. 7-141	Assumptions about time spent by First Nations people on-site appear to be based on information provided by a single person. Other assumptions (e.g. how much wild vegetable matter (food) is in the First Nations receptor diet) depend on this. How robust are these estimates? Were any other steps taken to validate the information provided?	
284	Section 7 P. 7-141	The following comments pertain to Table 7.7.17 The parameter values for the composite receptor are based upon weighted averages of receptor values for individual life stages. However, parameter values are provided only for the toddler and adult life stages. Data for all life stages is required for the reviewer to verify composite receptor values were calculated correctly. It is possible to calculate a "lifetime body weight" for the purposes of establishing lifetime average daily dose. The lifetime body weight would simply be the weighted	

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		average of the body weights for each life stage. The duration of each life stage should be included. This affects the apportionment of the 80-year lifetime (this value is stated on p. 7-152) and estimation of lifetime average daily dose for carcinogens.	
285	Section 7 P.7-145	Volatilization should be added to the figure to address fuel-related and maintenance-related volatile substances. These substances may be emitted to air during refueling, maintenance operations and spills. Fuel components should also be considered as COPCs for air.	
286	Section 7 P. 7-146	It does not appear that any of the COPCs were considered as potential developmental toxicants. Substances with developmental or reproductive effects, for example lead, should be identified and the HHRA should address these effects.	
287	Section 7.7.2.1 and subsequent sections	The Contaminants of Potential Concern (COPCs) appear to be limited to only Criteria Air Contaminants and metals present in the ore. Why was there no consideration in the Human Health and Ecological Risk Assessments for chemicals that will be used in ore processing/ concentration steps and the APT (ammonium paratungstate) production plant? (See identification of process chemicals in supporting document “Canadian National Instrument 43-101 Technical Report on the Sisson Project, New Brunswick, Canada”, Samuel Engineering, January 22, 2013, Section 17.7, pp 221-222 and elsewhere in that document) Note also that the EIA Report Section 7.6.3.6.1 states (regarding the predictive water quality model) that “TSF water quality is strongly affected by mill inputs (milled ore and process reagents) during Operation” but the impact of these process reagents was not considered in the HHERA. The HHERA be updated to also consider process chemicals (reagents) and wastes from these.	
288	Section 7.7.2.2.1	Clarification needed re the statement in this section that “It was assumed that all the respirable range particulates (i.e., particulate matter less than 10 µm in diameter) were associated with ore dust.” Does the “ore dust” considered include only dust from mining and/or the primary crusher, or does it also consider potential emissions from all of the various coarse crushing and communition steps and in particular the cyclones used in the ore	

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		processing and concentrate production steps? (Note that the process train as outlined has communition to quite small particulate sizes, e.g. Samuel Engineering Report p. 212 states a target size range for molybdenum cleaner flotation of 80% passing 45 µm, so there is likely some significant potential for <10 µm particles from these steps.) If the additional process steps have not yet been considered, should evaluate these for potential for respirable particulate releases and address as necessary in the HHERA	
289	Section 7.7.2.2.1, P.127	The report indicates ambient air quality monitoring was carried out for 3 seasons (August 2011 to February 2012). This is only a 6-month period and does not represent 3 full seasons. Is this representative? Why was this time period chosen?	
290	Section 7.7.2.2.5, P.131	Are there edible mushrooms in the affected area? If so, why were these not tested for existing concentrations?	
291	Section 7.7.2.2.8	If possible, it would be helpful to validate the Baseline Case estimated exposure point concentrations model against actual measured concentrations in game meats (and organ meats if applicable)	
292	Section 7.7.2.2.8, P.135	Are there any statistics available on the number of food animals killed from this area that could give a better indication of the amount of consumption? (Uncertain whether First Nations people are required to tag animals.)	
293	Section 7.7.3, P.140	Was consumption of organ meats considered in exposure? If not, why?	
294	Section 7.7.3.1.1, 141	Has the assumption been made that the food obtained is for personal use only? This would affect exposure.	
295	Section 7.7.3.2.2	Section 7.7.3.2.2 as a whole is unclear. The following comments apply: Some of the values identified as toxicity reference values (TRVs) identified in Tables 7.7.19, 7.7.20 and 7.7.21 are not actually TRVs. For example, the references to NB (1997) are to the Climate Change Action Plan at http://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Climate-Climatiques/2007-2012ClimateChangeActionPlan%20.pdf, which does not include reference to the term "TRV." Only reference values based solely on toxicity should be identified as TRVs. For tungsten in table 7.7.20, the cited study is not included in the reference list, and appears to be a paper from the primary literature (not verified, since they details of the	

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		source are not provided in the reference list). TRVs are typically developed by agencies, rather than published in the primary literature. The authors should confirm that this TRV is appropriate. It was difficult to cross-reference references within the table to those in the reference list, since the citation format is different. Some are missing altogether (e.g. see previous bullet). All table references should be included in the reference list, and a consistent format used throughout the submission. Please clarify how a TRV was selected when more than a single value was available. The term “hierarchical” is used to describe the TRV selection process. This implies searching organizations on the list from top to bottom until a TRV is identified, but does not suggest any critical review of candidate TRVs was completed. Such an approach would not necessarily lead to the most appropriate TRV, since it does not consider currency (when was the value derived) or the quality of the studies used in the derivation. Justification should be provided for the selected TRV from amongst the candidate TRVs reviewed. Some of the COPCs can occur in multiple forms (e.g. Cu, Ni, As, Hg) with different properties and toxicity (qualitative and quantitative). How was this addressed? What forms were assumed to be present, and what is the basis for these assumptions? Are the forms emitted the same as the forms that will be present in the environment over the long term (e.g. inorganic mercury may be associated with dust etc., but can be methylated in the aquatic environment and enter fish tissues as methyl mercury, an organic form).	
296	Section 7 P. 7-150	Please clarify how speciation was considered with respect to airborne exposures. Different forms of some metals (e.g. nickel) can differ in their toxicity following inhalation.	
297	Section 7 P. 7-156	Chromium exists in two forms, with the hexavalent form typically evaluated as a carcinogen. Was all chromium in air considered to be of the carcinogenic species? This would tend to overestimate incremental cancer risk from total chromium.	
298	Section 7 P. 7-158	It is recommended that the following information be included for completeness, even though it may not change the quantitative analysis. Although USEPA still classifies chromium as Group D (indeterminate) for carcinogenicity associated with oral exposure, a more recent EPA publication suggests that it is carcinogenic by the oral route. See	

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		http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=61&tid=17#bookmark05, which states "An increase in stomach tumors was observed in humans and animals exposed to chromium(VI) in drinking water." Although Pb is typically evaluated as a non-carcinogen, it is a probable human carcinogen, and its probable human carcinogen status should be noted. Please describe the criteria used to decide whether to evaluate a COPC as a carcinogen, non- carcinogen or both.	
299	Section 7 P. 7-162	The term "substantive health risk" is used twice on this page. For clarity, this term should be defined.	
300	Section 7 P. 7-163	The discussion of arsenic carcinogenicity in the second paragraph on this page compares an oral slope factor to an oral reference dose and concludes they are similar. This comparison is not valid and should be removed from the report. The slope factor and reference dose have different units, represent different things, and are calculated differently. Specifically, the slope factor is the incremental lifetime cancer risk per unit of dose, and the reference dose is a dose thought to be associated with no non-cancer risk.	
301	Section 7.7.3.5.2, P.165	The final sentence of section 7.7.3.5.2 suggests that "Toxicity doses and cancer slope factors used in the assessment have accounted for sensitive populations by applying safety factors." There are two comments with respect to this statement: It is not appropriate to refer to the factors used to extrapolate from animals to humans, or between humans, as "safety factors." Most North American regulatory agencies that derive TRVs refer to such factors as "uncertainty factors." This is because these factors are applied to address uncertainty in the toxicity database rather than to provide additional safety. The term "safety factor" incorrectly implies that the factor provides "safety" beyond an already safe dose, and should not be used. Although uncertainty factors are commonly used in derivation of non-cancer TRVs, they are rarely, if ever, used in the derivation of cancer slope factors. Please remove the reference to the use of "safety factors" in deriving cancer slope factors in this sentence, or provide more details on the procedure used.	
302	Section 7.7.3.4.3.5, P.161	2 levels of boron are indicated. Which one should be used?	

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303	Section 7 P. 7-138	The method of analysis used for boron in soil should be clarified. In Ontario, hot-water soluble (HWS) boron is the parameter used for evaluation of surface soil. The endpoint is toxicity to plants. Although not directly relevant to the HHRA, this could be relevant to aboriginal communities if it causes toxicity to their food, medicinal and traditional plants. See OMOE procedures/discussion in http://www.esdat.net/Environmental%20Standards/Canada/Ontario/7382e.pdf	
304	Section 7.7.3	The word "air" is repeated in "environmental media (*i.e.*, air, soil, water, **air**, and food items)".	
305	Section 8 - General	Is there any potential for mobilization of radioactive substances due to mining this deposit? If so, can this risk be quantified? The EIA Report, baseline studies and supporting reports including local geology and ore characterization currently appear to be silent regarding radioactive materials. A screening level evaluation should be completed for the potential for release of radioactive substances	
306	Section 8 - General	In general, although the reports are comprehensive, many of the statements around impacts are often dismissive of them, without clearly enunciated rationale. Substantiation of the evidence for such dismissive statements should be provided.	
307	Section 8 - General	Impacts should be evaluated on their own merit in relation to each phase of the project, not in relation to impacts relative to other phases.	Re-evaluate potential impacts independently for each phase of the Project, rather than relative to other phases.
308	Section 8.4.4.3.1	Several wells will be drilled to meet the demands of the operation. Where will these wells be drilled and what measures will taken to protect them from contamination? Drinking water consumed on-site must meet the Guidelines Drinking Water Quality.	
309	Section 8.4.4.3.2	***Fresh Water Supply: The supply and quality of the fresh water supply may be affected by both the presence of the TSF and the open pit. Monitoring of the water quality and water levels will be necessary to confirm the continued safe use of this water supply during Operation.*** If the quality of the fresh water supply may be affected by the TSF, etc. then groundwater consumption or contact should be included in the risk assessment.	
310	Section 8.9.1.6	***"A significant adverse residual environmental effect for a Change in Public Health is one that results in the Project-related environmental exposures that are predicted through the HHERA to exceed the objectives established by a recognized health organization and are likely to result in a long-term, substantive***	

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		change in the public health status. " 1-The terms "significant" and "substantive" must be clearly defined. 2-Are acute short term changes/effects included in this definition?	
311	Section 8.9.2.1	Citing statistics for New Brunswick and Region 3 will not provide an accurate baseline of the local area. The baseline data should be more local and cover the population downwind and downriver, where data is available. The baseline should include potential health impacts associated with the Project, including cancer, neuro-degenerative, and respiratory illnesses.	
312	Section 8.9.3	**Potential Project-VEC Interactions** Table 8.9.2 does not identify any impact (0) related to transportation nor to employment and expenditure.	
313	Section 8.9.4.1	Page 8-457: ***During Operation, the storage of water, tailings and waste rock within the TSF will create a potential source of metals enrichment for water contained in the tailings voids (and perhaps in the water in the supernatant pond) that may result in seepage of metal enriched water through the TSF embankments, migrating through groundwater towards the local streams. Perimeter engineered drainage collection channels at the toe of the TSF embankments, and lined water management ponds, will collect most of this seepage; however, some seepage will escape to the receiving environment, potentially affecting the stream water quality.*** It is not clear why it the system is designed to allow seepage to potentially enter the groundwater and also affect surface water quality. • Why can this not be prevented through design? • What are the design standards? Are they the same or greater than the design requirements for regional landfill construction? • When will the wastewater treatment plant be built? • Is there a contingency plan in place if the surplus wastewater needs to be released prior to the Commissioning of the wastewater treatment plant? Last paragraph: ***"Once the pit is full, Post-Closure begins and surplus pit lake water will be treated as long as necessary to meet discharge permit requirements***	

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		prior to release to the former Sisson Brook". • What is the remediation plan? For how will it be paid? • How will this on-going treatment be operated? For how will it be paid?	
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317	Sections 8-10 and 8-11	These sections describes the positive economic impacts of the Project, however the economic costs are not well described. In addition, the details for ensuring the positive impacts require more discussion. For example,how will the proponent ensure the jobs will be given to locals and FN population? Does the required skillset exist in the local population? If not, will training options be provided. Additional details are also required to substantiate the discussion regarding post closure impacts. The sections also provide a good analysis of the present real estate market in the LAA, and a good review of hospitals and health care services and facilities. However, the report does not substantiate objectively its claims of the low expected effects of the in-migration effect of new workers in the region. There are several claims that adverse impacts are not expected to community services and infrastructure such as schools, housing availability and cost, health care, emergency services. Please state objective data and research that shows that hundreds new employees in an area will not have any social impacts or impacts to the community services and infrastructure. In addition, the proponent may consider the following options to promote health and wellness for employees and the community: • Free and confidential access to all employees (and their families) to an Employee Assistance Program so that counseling and addiction services are available when required.	

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		http://www.cbc.ca/news/canada/new-brunswick/employers-not-doing-enough-for-employees-with-addictions-1.1912448 • Healthy eating options in the cafeteria and provide onsite facilities that allow staff opportunity for safe, physical activity. • Non-smoking policy anywhere on the work site. • Mandatory financial training (budget, debt management, etc.) training to all employees. This will be important for when the mine closes. • Working with local communities within the LAA to provide support in expanding current clinic/medical services. For example, they could provide financial support towards having a local walk-in or after-hours clinic established/expanded. • Should the project result in an increased demand on services, the proponent should commit to providing financial compensation to local fire, police and medical services so that they can obtain additional resources (equipment, staff, etc.) • Proponent should work with local groups and/or communities to develop dedicated trails for hiking and other recreational uses.	
318	Section 8-10, Pages 8-482 & 8-483	***As the Project nears the completion of Operation, there will be diminishing employment during Decommissioning, Reclamation and Closure, leading to the end of Project employment upon Post- Closure… After 27 years of Operation, Northcliff will work with these displaced workers to transition to retirement or retraining to re-enter the workforce as necessary***. How will the Proponent meet these objectives? • With regard to retirement, the proponent should consider offering mandatory financial and debt management training to all employees. This will help alleviate health concerns associated with the boom & bust cycle: and would address the Social Determinants:	

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		"Income and Social Status" (housing tenure, personal income/benefits) • With regard to retraining, additional details and a firm commitment on this is required. What will be the process? How will it be delivered? How will it be paid for?	
319	Section 8.11 Pages 8-513 Table 8.11.4and page 8-514	The report states on page 8-514 that : ***"Demands on Community Services and Infrastructure during Construction and Operation of the Project due to Project-related employment and expenditures are expected to be substantive and are of public and regulatory concern."*** However, the previous page (8-513) provides a table that indicates there will be very little effect during all phases of the mine on services and infrastructures. Provide an explanation for contradictory statement and Table 8.11.4	
320	Section 8.11 Page 8-496	The report states that*:* ***"As such, if workers with specific required skill sets are not available locally, workers may relocate to the central New Brunswick area from other parts of the province and beyond, both on a temporary and permanent basis. This in-migration of Project workers and their families, along with Project-related economic growth, and Project activities will create additional demands for Community Services and Infrastructure, possibly stressing present capacities."*** Proponent does not provide a quantitative estimate of expected in-migrants. Such an estimate can be determined based on the number of highly technical jobs projected both during construction and operation.	
321	Section 8.11 Page 8-495	The report states that*:* ***"During Construction, Northcliff will provide bussing to and from the Project site to facilitate dispersal of the temporary housing demand over the region, and otherwise work with communities to adapt to this demand through processes included in the ESMS. "*** Proponent does not provide any plan on the bussing service routes planned which would have a huge impact on the local residential market availability. Provide details on routes planned for bussing employees in/out during the construction phase.	

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322	Section 8.11 and 3	Proponent expects that the major road in the project site will be from Nackawic. That road is a forestry dirt road. It is more likely that mine employees and families will settle in or around Stanley where road is paved. This will put additional pressure on the real estate and housing market in Stanley and the upper Nashwaak Valley. This will likely result in an increase in housing price in that area, and potentially displacing low income families that will not have revenue linked to the mine activities. The proponent should assess and discuss of the effects of 500-300 employees and families settling in or near Stanley, including a discussion on the effect it will have on the price of existing houses in that area.	
323	Section 8.11.2.2	Page 8-502: ***"Many of New Brunswick's schools are filled to less than 60% of capacity. By 2015, student enrolment is expected to drop another 5% while operational costs are anticipated to grow by 14%*** ***"…Stanley High School has experienced a decline in enrollment over the past two decades.*** Page 8-520: ***Schools in New Brunswick are under capacity by 60% (Bissett 2012), so there is adequate capacity to accommodate additional students*** These comments are misleading. While that may be true for Stanley it does not speak to Stanley's ability to provide additional staffing should enrollment increase, nor does it speak to the impact of other schools in the LAA including Fredericton? Assess and discuss the impact of children from at least 300 families on the schools that are most likely to receive the in-migrant families and not based the comments on the entire province.	
324	Section 8.12 Land and Resource Use	"Construction and Operation of the project may cause nuisance environmental effects such as increase in sound and dust levels in the area, therefore potentially affecting the enjoyment and use of residential and recreational properties in the area" Have residents who use the area been made aware of the implications? Has the baseline noise level and potential increase been assessed and compared to an appropriate standard?	

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		This affected area is used for seasonal recreational fishing, hiking, hunting and trapping, local guides and outfitters.	
325	Section 8.12.3, pages 8-541-542	Fourth paragraph page 8-541 and third paragraph page 8-542: Which objectives and standards are being applied in this analysis? Have they been defined yet? Define “elsewhere” and “most of the time”.	
326	Section 8.12.3, page 8-542	Last paragraph states that *“Project activities and physical works during Decommissioning, Reclamation and Closure are ranked as 1 in Table 8.12.2 as the PDA is rehabilitated and access to certain parts of the PDA is restored”.* In Table 8.12.1, a ranking of 1 is defined as: *“Interaction will occur. However, based on past experience and professional judgment, the interaction would not result in a significant environmental effect, even without mitigation, or the interaction would clearly not be significant due to application of codified practices and/or permit conditions. The environmental effects are considered further and in more detail in the EA.”* Access to “certain parts” of the PDA will be restored, but not to the entire PDA. Given that the entire area of the TSF and open pit will not be accessible, provide the rationale for rating activities under Decommissioning, Reclamation and Closure as 1. Which past experience or professional judgment were employed? How was removal of this area from future use determined to be “not significant”? Which codified practices and permit conditions have been/will be applied to render this impact “not significant”?	
327	Section 8.12.3, page 8-543	First paragraph: *“Reclamation and Closure is therefore expected to result in a positive interaction with Land and Resource Use relative to the adverse environmental effects of preceding Project phases.”* Impacts should be evaluated in relation to each phase of the project, not in relation to impacts relative to other phases. Claiming a positive impact relative to larger negative impacts in other phases is not sound accounting nor is it appropriate to apply this as mitigation to discount significance of impacts in other phases. The reality is the only “positive” impacts in this phase are: • Partially restored viewscape; • Restored access to “certain parts” of the PDA; • Decreased air and sound emissions; and • Decreased traffic	Re-evaluate significance of impacts for each phase of the Project independently of one another, and in relation to the entire Project. Revise first paragraph to include value of impacts in the context of the entire Project.

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		These hardly constitute an overall “positive” interaction with Land and Resource Use when considered in the context of the entire Project.	
328	Section 8.12.3, page 8-544; Section 8.13.4, page 8-579; Section 8.14.4, page 8-618	In Table 8.12.3, Residual Environmental Effects Characteristics, Reversibility is labeled “R” –reversible. In Table 8.13.4, Residual Environmental Effects Characteristics, Reversibility is labeled “I” – irreversible. In Table 8.14.3, Residual Environmental Effects Characteristics, Reversibility is labeled “I” – irreversible. Please explain this apparent contradiction.	
329	Section 8.12.3, page 8-544; Section 8.13.4, page 8-579; Section 8.14.4, page 8-618	In Table 8.12.3, Residual Environmental Effects Characteristics, Ecological/Socioeconomic Context is labeled “D” – developed. In Table 8.13.4, Residual Environmental Effects Characteristics, Ecological/Socioeconomic Context is labeled “U” – undeveloped. In Table 8.14.3, Residual Environmental Effects Characteristics, Ecological/Socioeconomic Context is labeled “U/D” – undeveloped and developed. Please explain this apparent contradiction.	
330	Section 8.12.4.3, page 8-547 & other Sections	Last paragraph: *“The Project will directly employ hundreds of New Brunswick residents and will result in royalties and taxes paid to the Province of New Brunswick in excess of approximately $742 million over its life”.* Employment of New Brusnwickers: Other sections of the report seem to indicate employment opportunities will be available, but not necessarily to citizens of New Brunswick. What proportion of the workforce for this Project is the proponent prepared to guarantee will be New Brunswick citizens? Please provide the detailed yearly estimates of royalties and taxes that the Province can expect over the life of the Project, as well as the royalty and taxation schemes these estimates are based on. Provide the Eco Tec 2013 document that is referenced.	
331	Section 8.13, page 559	Has the proponent attempted to determine the economic impact to First Nations by removal 1.9% of available Crown land (within the contiguous block of Crown land in which the Project is proposed) or of the removal of 0.16% of Crown land (from traditional Maliseet territory) from Current Use of Land and Resources for Traditional Purposes? If yes, provide estimate; if no, provide rationale. Has the proponent considered cultural or spiritual value of the land and resources?	

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		Has either of these been discussed with First Nations?	
332	Section 8.13.1.2, page 8-561	Second paragraph, second sentence: *"Development of the Project may affect the ability of First Nations to access the lands and resources within the PDA and adjacent areas to carry out their traditional activities."*	Change "may" to "will".
333	Section 8.13.1.5, page 8-566	Second paragraph states: *"Since this knowledge is largely obtained through engagement and through interviews with Aboriginal knowledge holders, this form of data collection presents a technical limitation as to the comprehensiveness of the information provided."* Provide elaboration on the technical limitations resulting from this form of data collection.	
334	Section 8.13.2.2, page 8-570	First paragraph: Are the directions "*east through the state of Maine*" and "*west where it meets the neighbouring Mi'kmaq nations*" correct?	
335	Section 8.13.3, page 8-573-574	Table 8.13.3 – Potential Environmental Effects should be evaluated on their own merit in relation to each phase of the project, not in relation to impacts relative to other phases. Rankings of 1 in this table are questionable. How can impacts such as construction and operation of the TSF and excavation of the open pit (both permanent, irreversible and essentially eliminating the area from use) be considered "not significant"? The last sentence on page 8-574 also contradicts the rating of 1: *"….the magnitude of those effects would be no greater, or less, than when they first occur in Construction."* If the magnitude is not greater or less, then the ranking should remain the same for each phase.	Re-evaluate potential impacts independently for each phase of the Project, rather than relative to other phases.
336	Section 8.13.3, page 8-577	Third paragraph: *"…such that any traditional use of land or resources within the LAA will no longer be possible. The interactions, however, will not result in a significant environmental effect as restricted site access will begin at the onset of Construction, and will not cause an additional change to the area beyond that which occurred already during Site Preparation and which will continue throughout the Project Life."* Impacts should be evaluated in relation to each phase of the project, not in relation to impacts relative to other phases. Elimination of land and resources from traditional use is significant regardless of the phase of the Project.	Re-evaluate significance of impacts for each phase of the Project independently of one another, and in relation to the entire Project. Revise paragraph to include significance of impacts in the context of the entire Project.

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337	Section 8.13.3, page 8-577	Last paragraph: *"The interactions, however, will be positive, as these activities may restore much of the PDA to conditions similar to a largely pre-development state, including providing access to portions of the PDA for carrying out traditional Aboriginal land and resource use activities."* Impacts should be evaluated in relation to <u>each</u> phase of the project, not in relation to impacts relative to other phases. Claiming a positive impact relative to larger negative impacts in other phases is not sound accounting nor is it appropriate to apply this as mitigation to discount significance of impacts in other phases. These hardly constitute an overall "positive" interaction with Land and Resource Use when considered in the context of the entire Project.	Re-evaluate significance of impacts for each phase of the Project independently of one another, and in relation to the entire Project. Revise paragraph to include significance of impacts in the context of the entire Project.
338	Section 8.13.3, page 8-578	Second paragraph*:"….planned implementation of known and proven mitigation…."* What is the "known and proven mitigation"?	Include description and examples of "known and proven mitigation".
339	Section 8.13.6.2, page 8-590	Significance of potential environmental effects of the "Project on Current Use of the Land and Resources for Traditional Purposes by Aboriginal Persons" must be re-evaluated; therefore, re-evaluation of Residual Cumulative Environmental Effects must also be conducted.	Re-evaluate significance of impacts for each phase of the Project and revise Section 8.13 as necessary.
340	Section 8.13.7, page 8-590	Follow-up and monitoring requirements will have to be re-evaluated once Significance of potential environmental effects of the "Project on Current Use of the Land and Resources for Traditional Purposes by Aboriginal Persons" and Residual Cumulative Environmental Effects have been evaluated.	Re-evaluate significance of impacts for each phase of the Project and revise Section 8.13 as necessary.
341	Section 8.14.4.3, page 8-624-626		Revise this Section to include results of the ongoing shovel test pit program within the PDA, and include findings from the recent discovery of archaeological artefacts in the Open Pit area.
342	Section 8.14.6, page 8-628-629		Revise this Section based on the results of the ongoing shovel test pit program within the PDA, including findings from the recent discovery of archaeological artefacts in the Open Pit area and revised mitigation strategies and monitoring requirements.
343	Section 8.15.4	**Traffic Plan:** If bussing will only occur to-from Nakawick/Napadogan and the project area, then workers going to/from these locations to their housing accommodations could create additional traffic on roads as far as Fredericton and should be taken into account.	

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344	Section 8.17.2.1.1, pages 8-698-699	The report concludes that Loss of Containment from Tailings Storage Facility (TSF) is not credible, and therefore implications of such an event are not evaluated. Section 8.17.2 describes "credible events" as: *"…those that although unlikely can reasonably be contemplated to possibly occur and for which the resulting adverse residual environmental effects could potentially be significant."* While failure of the TSF may be "unlikely" given the proposed application of standards, rigorous construction methods, and implementation of adaptive management measures over the life of the mine, it can still be reasonably contemplated that it *could possibly* occur. Should this unlikely event occur, the resulting adverse residual environmental, economic and human health effects would in all likelihood be very significant. Therefore, to fully evaluate risks, impacts and mitigations, Loss of Containment from Tailings Storage Facility (TSF) should be evaluated as a credible scenario and the impact of any potential failure should be assessed and modelled, and a contingency plan developed to respond to such a failure.	Please provide an analysis of the impacts of Loss of Containment from the Tailings Storage Facility (TSF) and associated contingency plans and mitigation strategies to deal with such a failure.
345	Section 8.17	There is no mention of scrubber malfunction in "Malfunction and Unplanned Events." A failure of scrubbers is a major malfunction with significant consequences for people living downwind of the project site. The potential for malfunction should be assessed and a contingency plan should be developed to respond to any malfunction of the H2S, SO2 and NH3 scrubbers.	
346	Section 8.17.2.1.2, pages 8-699-700	The report concludes that Failure of a Water Management Pond is not credible, and therefore implications of such an event are not evaluated. Section 8.17.2 describes "credible events" as: *"…those that although unlikely can reasonably be contemplated to possibly occur and for which the resulting adverse residual environmental effects could potentially be significant."* This section describes a Failure of a Water Management Pond as: *"…a significant failure of one of the embankments of these ponds, or of the liner placed at the bottom of it that leads to the release of large quantities of mine contact water and/or seepage into the receiving environment."* This section also notes that applicable measures "*other than from unlikely human error*" should prevent such a failure. Elsewhere in the report it is noted that there **will** be seepage from these water management ponds. While Failure of a Water Management Pond may be "unlikely" given the proposed application of standards, rigorous construction methods, and implementation of adaptive management measures over the life of the mine, it can still be reasonably	Please provide an analysis of the impacts of Failure of a Water Management Pond and associated contingency plans and mitigation strategies to deal with such a failure.

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		contemplated that it *could possibly* occur. Also, while considered unlikely, human error cannot be dismissed as a possibility. Should this unlikely event occur the resulting adverse residual environmental effects would in all likelihood be significant. Therefore, to fully evaluate risks, impacts and mitigations, Failure of a Water Management Pond should be evaluated as a credible scenario.	
347	Section 8.17.3.3	**Environmental Emergency Plan:** Public Health should be included in the roles and responsibilities of such a plan, as well as provisions for training for any responsibilities assigned to PH staff that are judged outside of the scope of their usual competencies. Also, a clear notification and communication protocol to advise PH about exceedances to drinking water parameters or concerning spill or leak incidents that may create a public health risk.	
348	Section 9.2 and Appendix D 3.5.10	Monitoring of Groundwater and Surface Water should include monitoring for releases of the process chemicals (e.g. cyanide) as noted in comments regarding COPCs and/or their transformation products or other indicators (e.g. Biochemical Oxygen Demand as a surrogate for releases of biodegradable organic materials, etc.) Monitoring plans for groundwater and surface water should include process chemicals and/or their transformation products or other indicators	
349	Section 9.3.2.1, page 9-4	What is the nature of the proposed ongoing Baseline Monitoring program? What is being monitored? Where? Frequency? Etc., Etc. When can the province expect submissions of additional baseline monitoring data?	Provide a detailed description (list, table format) for all aspects of the ongoing Baseline Monitoring program in direct relation to the Follow-up and Monitoring Program.
350	Section 9.3.2.1	**Collection of Baseline Data:** Unfortunately, the current availability of data on indicators of health status and determinants of health for the population in the vicinity of the project is fairly limited in scope and also subject to limitations in statistical validity because of the low numbers of individuals living there and therefore of detecting statistically significant changes in health status over the life periodically of the project. All this to say that the absence of scientifically valid evidence of a health effect should not be construed as evidence of no health effect.	
351	Section 9.4.1, page 9-8	Atmospheric monitoring will be required through an Approval to Operate, from DELG.	Atmospheric Environment should be moved to *Section 9.4.2 VEC's with Follow-Up and Monitoring* and Follow-Up and Monitoring measures developed and included or referenced in the report.
352	Section 9.4.1, page 9-8		Heritage Resources should be moved to *Section 9.4.2 VEC's with Follow-Up and Monitoring* and Follow-Up and Monitoring measures developed and included in the report.

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353	Section 9.4.1, page 9-8	Other VECs listed in Section 9.4.1 may also need to be moved to *Section 9.4.2 VEC's with Follow-Up and Monitoring*, pending responses to federal IR's and provincial TRC comments/requests and subsequent review by regulatory authorities. Follow-up and monitoring measures may have to be developed for these and included in the report as well.	
354	Appendix D, Section 3.5.9.1, pages 3-17-18	First bullet (bottom of page 3-17) & first bullet (top of page 3-18): Regulatory authorities are not in agreement with the approach to test pitting outlined in this bullet. All test pitting must be completed prior to completion of the EIA review period and subsequent decision regarding the Project.	Revise.
355	Appendix D, Section 3.5.9.2, page 3-18	The proponent has committed to ongoing consultation and engagement of First Nations throughout the Project life. Notification of "Chance Finds" should be included as part of this ongoing consultation and engagement.	Revise second bullet: • Contact First Nations and Archaeological Services to assess the significance of the find; and
356	Appendix D, Section 3.6 and Table 4.1, Section 4.0	A preliminary Public, Stakeholders and First Nations Engagement Plan should be completed and submitted for review prior to an EIA decision on the project. This plan can be further revised and adapted, as necessary, throughout subsequent Project phases.	Provide a preliminary Public, Stakeholders and First Nations Engagement Plan for review.
357	Conceptual Decommissioning, Reclamation and Closure Plan - General	The *Conceptual Decommissioning, Reclamation and Closure Plan* does not provide sufficient detail to properly evaluate proposed decommissioning, reclamation and closure activities, nor does it provide adequate detail to properly assess the decommissioning and reclamation costs.	Please provide more detail with regard to the proposed decommissioning, reclamation and closure activities. Revise the *Conceptual Decommissioning, Reclamation and Closure Plan* to be submitted as a chapter or appendix of the draft EIA Report.
358	Conceptual Decommissioning, Reclamation and Closure Plan , Section 4.2, page 21	Under "General Strategies", bullet #3 states: *"remediate disturbed areas using passive natural systems"*. What is meant by "passive natural systems"? How are they implemented? How will they work?	
359	Conceptual Decommissioning, Reclamation and Closure Plan , Section 4.2.1, page 21	What proportion of the PDA can reasonably expect to be returned to any kind of end land use opportunities? Please express explicitly in land area. Which portions specifically will be returned to usable area? How long will recovery of the PDA to its former uses and restoration of the natural conditions existing pre-development take? The draft EIA report concludes that "some" of the PDA will be useable, but that the flooded open pit will not be; therefore, the last paragraph should be revised to reflect	

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		that reality.	
360	Conceptual Decommissioning, Reclamation and Closure Plan , Section 4.2.2, page 22	Will development of capacity goals be undertaken for each Project facility by year of operation, as certain areas become available for reclamation? When is it expected that implementation of the reclamation will begin? What mitigation or adaptive management strategies are proposed in the event that monitoring shows that capability goals are not being achieved?	
361	Conceptual Decommissioning, Reclamation and Closure Plan , Section 4.2.4	Revegetation of land area should employ species mixes that are appropriate to pre-development natural conditions and end land use expectations. Seed mixes should not include non-indigenous species or potentially invasive species (indigenous or not). Use of grasses for reestablishment of pre-developed natural conditions may be easier and more cost effective; however, use of ryegrass, fall ryegrass, creeping red fescue, and colonial bentgrass and various “native” legumes in a previously largely forested ecosystem is questionable. Other methods and species for erosion control and reestablishment of natural vegetation should be explored and employed where possible.	Provide additional detail on revegetation strategies to be employed in reclamation.
362	Conceptual Decommissioning, Reclamation and Closure Plan, Section 4.2.6, page 26	Will the sediments trapped by ditches and WMPs be tested for heavy metals prior to disposal? What disposal strategies, if any, have been developed?	Provide and overall monitoring and disposal strategy for sediments.
363	Conceptual Decommissioning, Reclamation and Closure Plan, Section 4.3.4, page 29	Why was refilling, or partial refilling, of the open pit with non-PAG waste rock or other material not considered a viable option for reclamation? This strategy would significantly reduce the volume of water in the open pit, thereby reducing the volume of water requiring treatment prior to release to the environment. This could show significant economic benefits over the long term.	
364	Conceptual Decommissioning, Reclamation	Will fences, berms, signage rock barriers be maintained by the proponent? For how long?	Add to Closure and Post-Closure Monitoring and Maintenance list of site-specific activities.

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	and Closure Plan, Section 4.4, page 35		
365	Conceptual Decommissioning, Reclamation and Closure Plan – Section 6.0, page 39		Provide further breakdown of cost estimates for decommissioning and reclamation activities, with specifics for all aspects of reclamation.
366	Conceptual Decommissioning, Reclamation and Closure Plan - General	How often will the *Conceptual Decommissioning, Reclamation and Closure Plan* be revised? In what year of operation can a final *Conceptual Decommissioning, Reclamation and Closure Plan* be expected?	

* For example, see the document for zinc at http://nepis.epa.gov/Exe/ZyNET.exe/P100CEBT.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2006+Thru+2010&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C06thru10%5CTxt%5C00000031%5CP100CEBT.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p%7Cf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL

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367	Section 8.5.4.3.2.2 Page 8-213	Will measurement of inorganic monomeric aluminum concentrations in the water be undertaken to determine the potential for aluminum toxicity?	