



- Corporation Éléments Critiques, WSP Canada Inc., Février 2019. Projet minier Rose Lithium-Tantale, Renseignements demandés par l'ACÉE pour la concordance de l'étude d'impact environnemental, Version finale.
- Corporation Éléments Critiques, WSP Canada Inc., Février 2019. Projet minier Rose Lithium-Tantale, Réponses aux questions et commentaires du MDDELCC, Version finale.

Should you require any clarification on the information request or have questions on the environmental assessment process, we invite you to contact Véronique Lalande by email at [veronique.lalande@canada.ca](mailto:veronique.lalande@canada.ca) or by phone at 418-455-4116.

Yours sincerely

<Original signed by>

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Attachments: First Information Request  
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# Rose Lithium – Tantalum Mining Project

Information Request #1

June 2019

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# 1. GENERAL COMMENTS

The Canadian Environmental Assessment Agency (the Agency) would like to remind Critical Elements Corporation (the Proponent) that the components cited in section 5(1) of the *Canadian Environmental Assessment Act (2012)* (CEAA 2012) comprise the following:

- 5 (1)** For the purposes of this Act, the environmental effects that are to be taken into account in relation to an act or thing, a physical activity, a designated project or a project are
- (a)** a change that may be caused to the following components of the environment that are within the legislative authority of Parliament:
    - (i)** fish and fish habitat as defined in subsection 2(1) of the *Fisheries Act*,
    - (ii)** aquatic species as defined in subsection 2(1) of the *Species at Risk Act*,
    - (iii)** migratory birds as defined in subsection 2(1) of the *Migratory Birds Convention Act, 1994*, and
    - (iv)** any other component of the environment that is set out in Schedule 2;
  - (c)** with respect to aboriginal peoples, an effect occurring in Canada of any change that may be caused to the environment on
    - (i)** health and socio-economic conditions,
    - (ii)** physical and cultural heritage,
    - (iii)** the current use of lands and resources for traditional purposes, or
    - (iv)** any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

The Proponent will also have to consider components cited in subsection 19(1) of the CEAA (2012):

- (a)** the environmental effects of the designated project, including the environmental effects of malfunctions or accidents that may occur in connection with the designated project and any cumulative environmental effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out;
- (b)** the significance of the effects referred to in paragraph (a);
- (c)** comments from the public — or, with respect to a designated project that requires that a certificate be issued in accordance with an order made under section 54 of the *National Energy Board Act*, any interested party — that are received in accordance with this Act;
- (d)** mitigation measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the designated project;
- (e)** the requirements of the follow-up program in respect of the designated project;
- (f)** the purpose of the designated project;
- (g)** alternative means of carrying out the designated project that are technically and economically feasible and the environmental effects of any such alternative means;
- (h)** any change to the designated project that may be caused by the environment;
- (i)** the results of any relevant study conducted by a committee established under section 73 or 74; and
- (j)** any other matter relevant to the environmental assessment that the responsible authority, or — if the environmental assessment is referred to a review panel — the Minister, requires to be taken into account.

## **Review of the environmental assessment**

For any questions that require a review of the environmental assessment with respect to a valued component, the Proponent must provide an update on the following aspects:

- description of potential effects,
- mitigation measures,
- description of residual effects,
- cumulative effects assessment, and
- monitoring and follow-up program.

## **Examples cited**

The examples cited in this information request are not exhaustive and are provided for guidance purposes only. All relevant information that would address the deficiencies noted in this request must be provided.

## **Explanation for missing elements of information**

An explanation should be provided by the Proponent if no information is given for one or more of the elements requested in this information request.

## **Mapping**

To facilitate the understanding of the project components and anticipated impacts, the Agency suggests that the footprint of the main structures in the project be superimposed on the maps submitted.

## **Translation**

This document is a translation of the French version of the Information request #1. In case of discrepancy, the French version shall prevail.

## **2. AUTHORS' ACRONYMS**

<b>CEAA:</b>	Canadian Environmental Assessment Agency
<b>ECCC:</b>	Environment and Climate Change Canada
<b>MAT:</b>	Ville de Matagami (city of Matagami)
<b>DFO:</b>	Fisheries and Oceans Canada
<b>NRCan:</b>	Natural Resources Canada
<b>HC:</b>	Health Canada
<b>SVP:</b>	Société pour Vaincre la Pollution (Society to Conquer Pollution)



### 3. INFORMATION REQUEST FOR ROSE LITHIUM — TANTALUM MINING PROJECT

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
<b>Scope of project</b>					
1	CEAA	6	Vol. 1 Sections 1.5.2 and 10.7.6.4	<p><b>Scope of project — Inclusion of workers' camp</b></p> <p>In Section 6 of the Environmental Impact Statement (EIS) Guidelines, the Agency stipulates that the following should be included in the scope of the project: "[translation] the workers' camps, the associated services and structures (landfills, drinking water, wastewater management, etc.)."</p> <p>The Proponent's Environmental Impact Statement (EIS) states that "[translation] the workers' camp will be located roughly 20 kilometres north of the site, at the location of a former Hydro-Québec work camp (the former Eastmain work camp) and will be developed by the Cree community of Eastmain. This camp is not part of this project. It could also accommodate workers from other projects in the region." However, Section 10.7.6.4 of the EIS states that "[translation] a permanent workers' camp will be present at the mine site, roughly 4 km from the pit, on the RE1 trapline".</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Confirm where the workers' camp will be located and indicate the location on a map.</li> <li>B) Specify whether the workers' camp must be built, an existing facility will be expanded or an existing camp will be used without modification. In the latter case, confirm whether there is some kind of agreement with the community of Eastmain for managing the workers' camp.</li> <li>C) As requested in the guidelines, take account of the workers' camp and associated services and structures (landfills, drinking water, wastewater management, etc.) in the environmental assessment.</li> </ul>
<b>Alternative means of carrying out the project</b>					
2	CEAA	8	Vol. 1 Section 2.3	<p><b>Alternative means of carrying out the project — Transportation and storage of ore</b></p> <p>Section 2.3 of the Environmental Impact Statement (EIS) does not include an analysis of various alternatives for transporting and storing ore, as required under Section 8 of the Agency's EIS Guidelines.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Submit an alternative means analysis for the transportation and storage of ore. For ore transport, consider onsite and offsite transportation within Quebec. Along with providing a detailed analysis, the Proponent must summarize the findings of the analysis in a detailed comparative table.</li> <li>B) Provide a written description of, and illustrate on a map, the final route chosen for transporting ore by truck, train or boat, using the alternative means analysis to justify the choice of route.</li> </ul>
3	CEAA	8	Vol. 1 Section 2.3	<p><b>Alternative means of carrying out the project — Worker accommodations</b></p> <p>Section 2.3 of the Environmental Impact Statement (EIS) does not include an analysis of various alternatives for housing workers, as required under Section 8 of the EIS Guidelines.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Provide an alternative means analysis for worker accommodations. Along with providing a detailed analysis, the Proponent must summarize the findings of the analysis in a detailed comparative table.</li> <li>B) Confirm which alternative was chosen for worker accommodations and identify the location of the camp on a map.</li> </ul>



Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
4	CEAA SVP	8	Vol. 1 Section 2.3	<p><b>Alternative means of carrying out the project — Contaminated water treatment</b></p> <p>Section 2.3 of the Environmental Impact Statement (EIS) does not include an analysis of the various options for treating contaminated water, as required under Section 8 of the EIS Guidelines.</p> <p>To limit the quantity of water to be removed from the pit, the Proponent proposes that a network of wells be installed around the periphery. According to the Société pour Vaincre la Pollution (SVP), pumping groundwater could severely impact the lakes and watercourses around the mine.</p> <p>In Section 3.7 of the EIS, which deals with the methods to be used for dewatering the pit, a hydrogeological study concluded that the 1-m drawdown cone will affect many lakes within a 4-km radius of the mine site. The quantity of water pumped from the bottom of the pit and by the wells on the periphery will total 23,150 m<sup>3</sup>/day. According to SVP, the pit water will contain suspended matter, metals and nitrates from ammonium-nitrate-based explosives; ammonium nitrate is a surface-water pollutant that causes lake eutrophication. According to SVP, even if this water is directed to the wastewater treatment system, the final effluent will likely carry a heavy load of soluble nitrates that will pollute Watercourse A downstream.</p> <p>SVP believes that, instead of carrying out the preventive dewatering of the pit by pumping the water out through peripheral wells, which would destroy the area's lakes, the Proponent should use the pit water that will accumulate naturally in the pit in the ore concentration process.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Provide an alternative means analysis for the treatment of contaminated wastewater (including mine water, effluent discharge points and domestic wastewater). Along with providing a detailed analysis, the Proponent must summarize the findings of the analysis in a detailed comparative table.</li> <li>B) In the analysis, include an assessment of the option of not doing preventive dewatering (by pumping the water out through wells on the periphery of the pit), and instead using the pit water that will accumulate naturally in the pit in the ore concentration process.</li> </ul>
5	CEAA	8	Vol. 1 Section 2.3.3	<p><b>Alternative means of carrying out the project — Energy sources</b></p> <p>In Section 8 of the Environmental Impact Statement (EIS) Guidelines, the Agency stipulates that, in the alternative means analysis for the project, the Proponent must follow an approach that requires, among other things, developing criteria for determining the technical and economic feasibility of the alternatives, describing each alternative in sufficient detail and identifying its potential environmental effects.</p> <p>The description of potential energy sources for the project in Section 2.3.3 of the EIS does not provide enough details on the economic and environmental considerations associated with each of the various options mentioned, making it impossible for the Agency to properly evaluate the alternative solutions to determine the best one. In addition, the EIS does not deal with the various energy sources recommended for mobile equipment.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Provide more details on how the various options meet the criteria for economic and environmental feasibility (e.g., greenhouse gases) in order to justify the energy sources chosen.</li> <li>B) Take account of renewable energies in the alternative means analysis.</li> <li>C) Carry out an alternative means analysis on energy sources for mobile equipment (e.g., mine haulage vehicles, road transport vehicles, heavy equipment, trucks) and justify the source(s) recommended. Along with providing a detailed analysis, the Proponent must summarize the findings of the analysis in a detailed comparative table.</li> </ul>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
6	CEAA	8	Vol. 1 Section 2.3.3	<p><b>Alternative means of carrying out the project — Ore processing</b></p> <p>Section 2.3.3 of the Environmental Impact Statement (EIS) does not provide an analysis of various alternatives for ore processing, as required in Section 8 of the EIS Guidelines.</p>	The Proponent must provide an alternative means analysis for ore processing. Along with supplying a detailed analysis, the Proponent must summarize the findings of the analysis in a detailed comparative table.
7	CEAA	8	Vol. 1 Section 2.3.3	<p><b>Alternative means of carrying out the project — Ore transformation</b></p> <p>Section 2.3.3 of the Environmental Impact Statement (EIS) indicates that “[translation] it seems preferable to feed the concentrate produced by the Rose project to the international market, rather than treating it for secondary processing near the mine”. The Proponent cites economic reasons for this choice but does not provide further details. The Proponent did not take account of environmental effects in the alternative means analysis on the transformation of spodumene into lithium carbonate and lithium hydroxide and on the transformation of tantalum.</p>	<p>The Proponent must:</p> <p>A) Provide details on the economic and environmental (e.g., greenhouse gases) aspects of the various options for spodumene and tantalum transformation.</p> <p>B) Summarize the analysis in a detailed comparative table.</p>
8	CEAA	8	Vol. 1 Section 2.3.3	<p><b>Alternative means of carrying out the project — Location of the dike at Lake 3</b></p> <p>Section 8 of the Environmental Impact Statement (EIS) Guidelines requires that the Proponent carry out an alternative means analysis on the location of mine-related infrastructure.</p> <p>On page 31 of the Supplement to the EIS, the Proponent mentions the return of the dike to Lake 3 “[translation] in order to operate the pit safely”, while, on page 19, the Proponent states that “[translation] a dike about 60 m in length will be constructed across the narrowest portion of Lake 3”.</p>	<p>The Proponent must:</p> <p>A) Provide a detailed explanation justifying why a dike was added to the project infrastructure.</p> <p>B) Provide an alternative means analysis on the location of the dike. Along with providing a detailed analysis, the Proponent must summarize the findings of the analysis in a detailed comparative table.</p>
<b>Project description</b>					
9	CEAA		Vol. 1 Section 3.11.4  Supplement to the EIS for the CEAA (p. 3)	<p><b>Project description — Project schedule</b></p> <p>According to the Environmental Impact Statement (EIS) Guidelines (section 5.7), the Proponent must provide a detailed schedule including the time of year, frequency, and duration of all project activities. This information is not provided in sufficient detail in the EIS and its supplement.</p>	The Proponent must submit a work schedule broken down by month to ensure the planned phases of work follow each other in a logical order and that they do not overlap with critical periods for wildlife (restriction periods). If unable to specify with certainty the exact timing of each construction phase, the Proponent must provide a table showing all restriction periods that will be enforced according to the type of work, stipulating the protection objective related to each restriction period (species or groups of species targeted).

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
10	SVP		Vol. 1 Sections 3 and 3.4	<p><b>Project description — Risks associated with chemical reagents used in ore processing</b></p> <p>In the Environmental Impact Statement (EIS), the Proponent states that it intends to use a series of reagents at the ore processing facility (concentrator), including NaOH, Na<sub>2</sub>CO<sub>3</sub>, oleic acid, methyl isobutyl carbinol (MIBC) and various flocculants.</p> <p>According to the Société pour Vaincre la Pollution (SVP), the Proponent should have included a literature review in the EIS on the ecotoxicological risks of the chemical reagents to be used along with the review of risks on workers' health.</p> <p>In the EIS, the Proponent states that the process water will be recirculated (a process water reservoir is planned for this purpose) but does not indicate in what proportion.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Explain what percentage of the process water will not be recirculated and will be directed to the wastewater treatment plant instead.</li> <li>B) Estimate the concentrations of total polymers from oils and greases (oleic acid) and of residual MIBC that will be found in the effluent to be treated and explain the treatment system's capacity to reduce their concentrations in the final effluent, in order to comply with water quality standards and recommendations (<i>Fisheries Act, Metal and Diamond Mining Effluent Regulations, Canadian Council of Ministers of the Environment, etc.</i>).</li> </ul>
11	ECCC	5.7	Vol. 1 Section 3.6.4 (p. 3-31) Map 3-2 (p. 3-23)  Supplement to the EIS for MELCC (p. 15)	<p><b>Project description — Disposal method for tailings and waste rock</b></p> <p>In the Environmental Impact Statement (EIS), the Proponent states that the excess waste rock not needed in construction will be directed to a waste rock pile where it will be co-disposed with filtered tailings.</p> <p>In the Supplement to the EIS for Quebec's ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC), the Proponent states on page 15 that: "[translation] Tailings will be transported in the same mine trucks used for waste rock. (...) A dedicated road is planned between the dry tailings storage silo near the ore processing facility and the dump for co-disposal of waste rock and dry tailings. Since the section containing tailings in the co-disposal facility is surrounded by waste rock and is encircled by a filtration berm, tailings will be protected from the wind."</p> <p>It is our understanding that tailings and waste rock will be placed side by side, so that the waste rock will surround the tailings. Strictly speaking, this is not co-disposal, which involves alternating layers of waste rock and tailings, allowing the tailings to settle naturally in the empty spaces in the underlying waste rock (<a href="http://reviewboard.ca/upload/project_document/EA0809-004_Co-disposal_Case_Histories.PDF">http://reviewboard.ca/upload/project_document/EA0809-004_Co-disposal_Case_Histories.PDF</a>).</p> <p>Notwithstanding the foregoing, the Proponent has not explained how or why the disposal method for mine materials was chosen. Depending on the geochemical characteristics of the mine materials, one disposal option may have some advantages over another.</p>	<p>The Proponent must justify the choice of the co-disposal method.</p>

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12	ECCC	9.1.2	Vol. 1 Section 3.6  Supplement to the EIS for the CEAA (p. 12, and Appendix G)  Supplement to the EIS: Samples for kinetic and radioactivity tests, January 2019 (CEC, Feb. 2019)	<b>Project description – Selection of materials for geochemical characterization</b>  Concerning sampling and the results of tests like those for trace metals and acid generation potential, shown in Appendix G of the Supplement to the Environmental Impact Statement (EIS), the Proponent has not justified the choice of the materials (for example, the ore and different waste rock lithologies) used to conduct kinetic tests, which are currently underway.	The Proponent must provide a detailed explanation of what guided the choice of materials used in the kinetic tests currently underway, notably by explaining if the materials with the greatest leachability potential and/or acid generating potential were selected for these tests. If not, justify the choices that were made.
13	ECCC	9.1.2	Vol. 1 Section 3.6  Supplement to the EIS for the CEAA (Appendix G)	<b>Project description – Samples for geochemical characterization</b>  In Section 2.2 of Appendix G (p. 16), the Proponent states that “[translation] a dozen samples [of tailings] were taken after metallurgical tests conducted at the SGS Lakefield laboratory”.  According to the third table in Appendix A of Appendix G (p. 2 of Appendix A), the 12 tailings samples appear to come from 10 ore samples. In addition, details on the composition of these samples and how the composite samples were prepared are missing.  According to the information provided by the Proponent in the geochemical study, deslimed tailings and mica tailings do not appear to have been included in the tailings samples tested.	The Proponent must:  A) Explain, for each unit (metals) shown in Table 4.4 (p. 41 of Appendix G), its location in the deposit and proportion in the composite samples.  B) Explain how the ore samples to be analyzed are representative of the resulting tailings produced. For example, does this involve one tailings sample for each 10 ore samples or rather a mixture of different tailings samples after the conversion of ore to tailings? Specify which ore samples were used to prepare the 12 mine tailings samples.  C) Justify the exclusion of deslimed tailings and mica tailings from the tailings samples analyzed and explain the possible consequences of this exclusion on the results.
14	ECCC	5.7 9.1.2	Vol. 1 Section 3.6  Supplement to the EIS for the CEAA (p. 12; Table 1, p. 9; Appendix G)	<b>Project description – Results of geochemical characterization</b>  Since the results of the geochemical tests are still forthcoming, the analysis of the potential effects of mine materials on groundwater and surface water quality is not complete at this time. An exhaustive characterization of the geochemical behaviour (analysis results and conclusions) of all expected mine materials will be required to analyze the effects of the project.  Table 3.1 of Appendix G (p. 20) shows that, in the case of overburden, only a trace metal analysis was conducted. According to the Agency’s Environmental Impact Statement (EIS) Guidelines, a characterization of the geochemical behaviour of expected mine materials should include “mineralogy, elemental composition of	The Proponent must:  A) Present the test results for all mine materials (including the acid generation potential [AGP] test for overburden).  B) Based on the results of the AGP test on overburden, assess the need to carry out kinetic tests on these materials. Explain the reasons for not conducting kinetic tests on overburden if applicable.

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				lithologies in study area (major and trace elements) and potential for acid generation, neutralization and contaminated neutral drainage”.	
15	ECCC	5.7 9.1.2	Vol. 1 Section 3.6  Supplement to the EIS for the CEAA (p. 12; Table 1, p. 9; Appendix G)	<p><b>Project description – Watertightness of waste rock piles</b></p> <p>The Proponent proposes that mine materials from the project be stored in waste rock piles without sealing measures being put in place. However, this would require data demonstrating that this practice will not cause groundwater contamination through metal leaching and/or acid drainage.</p> <p>Regarding waste rock and mine tailings, page 32 of Appendix G states that two samples (gneiss and amphibolite) are potentially acid generating, although a number of samples with these two lithologies exceed Criterion A as set out in the <i>Politique de protection des sols et de réhabilitation des terrains contaminés</i> (PPSRTC, or Soil Protection and Contaminated Sites Rehabilitation Policy) for several trace metals. According to Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques (MELCC) Directive 019 (for the mining industry), Level-A sealing measures will be required at the co-disposal facility for waste rock and mine tailings to protect groundwater quality.</p> <p>Regarding overburden, the Proponent concludes at the end of Appendix G (p. 47) that “[translation] all samples have concentrations below PPSRTC Criterion A, automatically making them low-risk materials under Directive 019”. However, on page 45, a sample in which PPSRTC Criterion A is exceeded for arsenic is mentioned.</p>	The Proponent must justify or review the conclusions on the need to provide sealing measures for waste rock piles in the light of the additional results of geochemical and kinetic tests.
16	ECCC	5.7 9.1.2	Vol. 1 Section 3.6  Supplement to the EIS for MELCC (p. 17)	<p><b>Project description – Effects of all mine materials on water quality</b></p> <p>Regarding runoff from the overburden stockpile, the Proponent indicates on page 17 of the Supplement to the Environmental Impact Statement (EIS) (Responses to questions and comments from Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques) that this runoff will drain into watercourses A, D and F, and towards Lake 6. This statement implies that the drainage water will comply with water quality standards and recommendations (<i>Fisheries Act, Metal and Diamond Mining Effluent Regulations, Canadian Council of Ministers of the Environment [CCME], etc.</i>), despite the fact that the geochemical characterization of the overburden has not yet been completed.</p>	The Proponent must evaluate the potential effects of all mine materials (waste rock/tailings, ore and overburden) on groundwater and surface water quality at the site during each of the project phases (construction, operation, closeout and restoration).
17	NRCan	5.7	Vol. 1 Section 3.7.1 Map 3-3  Supplement to the EIS for MELCC (pp. 19)	<p><b>Project description – Manufacturing of explosives</b></p> <p>On page 3-13 of the EIS, the Proponent states: “[translation] The manufacture of explosives on the mine site is not planned” and adds that “the emulsion and ANP [granulated ammonium nitrate] will be loaded in separate tanks in the mobile manufacturing unit and will be mixed when loaded in the drill holes in the mine”.</p>	<p>The Proponent must:</p> <p>A) Specify whether the mobile manufacturing unit that the explosives will be loaded into comes from an existing authorized factory or whether the mine site will house storage and transfer facilities for explosives.</p> <p>B) Confirm whether explosive manufacturing will take place at the mine site as defined under subsection 53 (c) of the <i>Explosives Regulations, 2013</i>.</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
			and 22)	<p>The blending and pumping of explosives constitute manufacturing under subsection 53 (c) of the <i>Explosives Regulations, 2013</i>.</p> <p>If the loading or mixing of the emulsion or ANP (granulated ammonium nitrate) at the mine site involves supplementary infrastructure such as tanks, a wash bay or a garage, the Proponent must obtain a factory or satellite site licence to manufacture explosives issued by NRCan.</p>	
18	ECCC	9.1.2	<p>Vol. 1 Section 3.7.1</p> <p>Supplement to the EIS for the CEAA (p. 12; Appendix G)</p> <p>Supplement to the EIS for MELCC (Appendix QC-29b)</p>	<p><b>Project description – Water balance</b></p> <p>The Environmental Impact Statement (EIS) provides process water flow diagrams as well as tables showing flows from the different infrastructure such as wells, pumps and ditches. Data on flows associated with precipitation, infiltration, groundwater inflows, evaporation from basins, dust control measures, etc., are not provided.</p> <p>To be able to properly assess the quantity and quality of mine water and the impact of the project on surface water and groundwater quality, the water management plan must include the water balance for all water circulating on and off the site (input and output) under different conditions (dry, normal and wet periods), taking into account the effects of climate change.</p> <p>Tools such as a water and mass balance model could be used for this purpose. This type of model is very useful for demonstrating that the water management plan will ensure sufficient availability of water for mining operations and that the mine water management infrastructure has enough capacity to handle the flows and volumes anticipated, will minimize impacts on the receiving environment and contains measures to limit environmental impacts. Here is an example of a guide from the Yukon on determining the water and mass balance that could assist the Proponent: <a href="http://www.env.gov.yk.ca/publications-maps/documents/mine_water_balance.pdf">http://www.env.gov.yk.ca/publications-maps/documents/mine_water_balance.pdf</a></p>	<p>The Proponent must:</p> <p>A) Present a detailed water management plan that takes account of all the different types of flow on and off the mine site (inputs and outputs), including precipitation, infiltration, groundwater inflows, evaporation from basins and water used for dust control.</p> <p>A mass and water balance model could be used to complete the mine water management plan for the site, by allowing the calculation of the annual flows to be treated at the water treatment plant. This ensures compliance with final effluent standards under dry, normal or wet conditions, taking into account the effects of climate change.</p> <p>B) Explain how water management infrastructure (waste rock piles, dikes, ditches, etc.) will be effective in directing contact water to the treatment system.</p>
19	ECCC	5.7	<p>Vol. 1 Section 3.7.1</p> <p>Supplement to the EIS for the CEAA (p. 6)</p>	<p><b>Project description – Water management during each phase</b></p> <p>Information on water management is important in evaluating the project's potential effects on surface water and groundwater quality throughout the mining project. Water management during the operation phase was described in the Environmental Impact Statement (EIS), and the Proponent provided additional information on water management during the construction phase in the Supplement to the EIS.</p>	<p>To facilitate understanding, the Proponent must present the water management and treatment plan in specific sections by project phases (construction phase, operation phase, close-out phase and restoration phase).</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
20	ECCC	5.7	<p>Vol. 1 Section 3.7.1 Map 3-3</p> <p>Supplement to the EIS for the CEEA (p. 5-6; Map 1, p. 7)</p>	<p><b>Project description – Water management during the construction phase</b></p> <p>Regarding water management during the construction phase, the Environmental Impact Statement (EIS) indicates that ditches and small ponds will collect the runoff, which will then be treated. In the Supplement to the EIS, the Proponent briefly explains that water management will be carried over three broad stages during the construction phase and provides a map (Map 1) to illustrate the explanations. However, it is difficult to adequately follow the water management activities over the course of the work. The information presented is not detailed enough to assess the effects of the construction activities on water quality in the receiving environment.</p> <p>Furthermore, the water collection and treatment infrastructure are not shown on Map 1 during each step of the construction phase. The path of the contact water (orange line with brown arrows) can be seen, but not how this water reaches the accumulation pond as described in the text; the line on the map stops between the industrial area and overburden stockpile. Furthermore, no distinction is made between the path of the contact and non-contact water.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Explain, for each step of construction (e.g., pit stripping, pit dewatering, pond construction, etc.), how the mine water (from the mine construction site) will be collected and managed to prevent the contamination of the receiving environment.</li> <li>B) Illustrate, on one or more maps, the changes in water management during the various construction stages, along with permanent and temporary water management infrastructure such as ditches, cofferdams and small ponds, where necessary. The maps should present this information in a way that the reader can thoroughly grasp, and distinguish between, the management of contact and non-contact water at the site. They should also show the layout of the non-contact water drainage system. Then, revise the project's potential effects on water quality during the construction phase, as well as the mitigation measures and residual effects, if required.</li> </ul>
21	ECCC	5.7	<p>Vol. 1 Section 3.7.1 Map 3-3</p> <p>Supplement to the EIS for MELCC (p. 19)</p>	<p><b>Project description – Mine water collection</b></p> <p>In the Proponent's answer to Quebec's ministère de l'Environnement et de la Lutte contre les changements climatiques Question QC-30, it is stated that "[translation] the ditches around infrastructure have been designed to prevent runoff on the periphery of the infrastructure from penetrating the infrastructure and becoming contact water that must then be treated".</p> <p>However, on Map 3-3 (p. 3-37 of the Environmental Impact Statement (EIS)), it is difficult to well understand how the uncontaminated water will be diverted around the site to prevent it from mixing with the contact water. For example, the overburden stockpile seems to be completely exposed to infiltration from uncontaminated water.</p> <p>Furthermore, on page 3-34 of the EIS, the Proponent says that "[translation] there will be no ditch around the overburden stockpile and the runoff will be channelled naturally to nearby ditches".</p> <p>Pursuant to the federals <i>Metal and Diamond Mining Effluent Regulations</i>, the water management system must collect all drainage from mine structures, including the overburden stockpile.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) For all project phases, describe and illustrate on a map how mine water is to be collected and the system for diverting non-contact water around mine site infrastructure such as waste rock piles and contact water ditches.</li> <li>B) Include the drainage collection system for the overburden stockpile on Map 3-3 of the Environmental Impact Statement.</li> </ul>



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22	ECCC	5.7	Vol. 1 Section 5.2.3.1 (Table 5-6)  Supplement to the EIS for MELCC (p. 35)	<p><b>Project description – Management of water for cleaning concrete mixers and other vehicles</b></p> <p>Regarding the management of the wash water used to clean concrete mixers and other vehicles, the Proponent states that “[translation] water used to clean concrete mixers, vehicles and equipment must be disposed of in an area provided for this purpose so as to avoid any contamination of the environment. Everything will be recovered by a specialized firm.” However, the Proponent should explain how this water will be managed.</p>	<p>Regarding the wash water used to clean concrete mixers and other vehicles, the Proponent must:</p> <ul style="list-style-type: none"> <li>A) Explain how this water will be collected.</li> <li>B) Locate where this water will be stored.</li> <li>C) Provide details on the infrastructure to be used to manage this water.</li> </ul>
23	ECCC	5.7	Vol. 1 Section 3.7.1  Supplement to the EIS for MELCC (p. 72)  Supplement to the EIS for the CEAA (Appendix G)	<p><b>Project description – Management of contact water from service roads</b></p> <p>Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques indicates that “[translation] the Proponent must ensure that amphibolite aggregates are used to construct the roads in the mine complex in order to decrease crystalline silica emissions associated with road use”.</p> <p>In addition, the Proponent does not plan to collect the water that will come in contact with the service road ditches since, according to the Proponent, this water does not have the potential for contamination (p. 3-35 of Environmental Impact Statement). Instead, the Proponent plans to use passive control measures for suspended solids.</p> <p>According to Appendix G (p. 37), 7 out of 76 waste rock samples tested exceeded PPSRTC Criterion A (three of which also exceeded Criterion B) for copper. The same seven samples also exceeded the surface water resurgence criterion for copper in Toxicity Characteristic Leaching Procedure (TCLP) testing. Five of these seven samples consisted of amphibolite.</p> <p>Since the roads will be built from waste rock from amphibolite sources, it is worrisome that there are no plans to construct a system to collect road drainage.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Justify why suspended solids control is the only parameter taken into account in managing contact water from service roads.</li> <li>B) Describe parameters besides suspended solids that will be measured in order to manage contact water from service roads. For this purpose, Environment and Climate Change Canada recommends using the parameters employed to characterize effluent under the <i>Metal and Diamond Mining Effluent Regulations</i>.</li> <li>C) Explain why the use of amphibolite as an aggregate will not result in water contamination.</li> <li>D) Explain and illustrate how contact water from roads on the site will be collected and managed, if required.</li> </ul>
24	ECCC	9.1.2 5.7	Vol. 1 Section 3.7.1  Supplement to the EIS for the CEAA (p. 12; Table 1, p. 9; Appendix G)	<p><b>Project description – Mine water treatment</b></p> <p>The estimated concentrations of substances (mainly metals) in the influent to be directed to the treatment system are based on the results of only one water leaching test (CTEU-9, SGS – March 2017), according to what was said by the Proponent (page 9 of Supplement to the EIS): “[translation] The plant will treat water with the following characteristics according to the geochemical test carried out in March 2017 (CTEU-9, SGS)”.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) In light of the results of additional geochemical tests, reassess whether the estimated concentrations of metals are representative of those that will actually be found in the mine water to be treated.</li> <li>B) Demonstrate that the water collection and treatment system and mitigation measures will have the capacity to collect and treat, if required, all the mine water before it is discharged into the environment, in compliance with water quality standards and recommendations (notably those in the <i>Metal and Diamond Mining Effluent Regulations</i> and issued by the CCME).</li> </ul>

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					C) Describe additional mitigation measures (such as an adaptive management plan) that will be implemented in the event that releases from the water treatment plant prove to be non-compliant with regulations.
25	ECCC	9.1.2 5.7	Vol. 1 Section 3.7  Supplement to the EIS for the CEAA (p. 5-6; p. 12; Table 1, p. 9)	<p><b>Project description – Mine water treatment during the construction and operating phases</b></p> <p>Regarding water management during the construction phase, the Proponent states that a procedure will be put in place to validate the compliance of water quality with the criteria in Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques Directive 019 for the mining industry and the <i>Metal and Diamond Mining Effluent Regulations</i> (MDMER).</p> <p>Water quality objectives during the operation phase are shown in Table 1 of the Supplement to the EIS (in response to the information request by the CEAA), in the form of concentration limits for MDMER and Directive 019 parameters and Effluent Discharge Objectives (EDO).</p> <p>However, other substances could also be released during the construction and operation phases for which no criteria have been established in Directive 019, EDO or MDMER.</p>	<p>The Proponent must:</p> <p>A) Present the water quality results obtained during the construction phase by also taking into account the Canadian Water Quality Guidelines for the Protection of Aquatic Life issued by the CCME.</p> <p>B) Add the CCME’s Canadian Water Quality Guidelines for the Protection of Aquatic Life to Table 1 (water management during the operation phase) in the Supplement to the Environmental Impact Statement (in response to the information request by the CEAA), so that anticipated contaminant concentrations can be compared with these guidelines.</p>
26	ECCC	5.7	Vol. 1 Section 3.7.1 Map 3-3  Supplement to the EIS for MELCC (p. 20)	<p><b>Project description – Watertightness of accumulation ponds</b></p> <p>The Proponent’s answer to Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques Question QC-32 states that “[translation] a geomembrane is planned for the accumulation pond to make it impermeable. Ponds no. 2 and 3 will not have a geomembrane. The latter was not deemed necessary based on the results of the waste rock and tailings characterization and the conclusions from Lamont’s updated geochemical study (Appendix QC-17).”</p> <p>However, the Proponent must wait for the results of kinetic tests before being able to draw any conclusions about the quality of the drainage water from mine materials such as waste rock. At this stage, there are not enough data to determine with certainty what level of impermeability is required for the various structures on the site, including the waste rock piles and ponds.</p>	The Proponent must, after obtaining the results of the additional geochemical tests (including kinetic tests), review and redo if necessary the design of ponds 2 and 3 based on all the results, particularly the results on waste rock and mine tailings geochemistry.
27	ECCC	5.7	Vol. 1 Section 3.7.1 Map 3-3  Supplement to the EIS for the CEAA (p. 11)  Supplement to	<p><b>Project description – Treatment of mine water</b></p> <p>Regarding the quality of the water exiting the water treatment unit (WTU), the Proponent indicates that “[translation] in the event that water quality is unsatisfactory, the water will be returned to the accumulation pond rather than being released to the ditch”.</p> <p>The Proponent, in responding to Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques (MELCC) Question QC-27 (p. 18),</p>	<p>The Proponent must:</p> <p>A) Justify why a single parameter—turbidity—is sufficient to trigger the return of water to the wastewater treatment unit (WTU) and specify what other parameters will trigger the deviation of the final effluent (e.g., pH or conductivity), if necessary.</p> <p>B) Evaluate the option of installing a polishing pond for water that is not of satisfactory quality when it leaves the WTU. If this variant is not retained,</p>

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			the EIS for MELCC (p. 18-19)	<p>asserts that a polishing pond will not be needed because turbidity will be continuously monitored and the water will be returned to the accumulation pond if criteria are exceeded.</p> <p>Therefore, according to the Proponent's explanations, the return of water to the accumulation pond will be based solely on turbidity measurements.</p> <p>The addition of a polishing pond would provide greater flexibility in wastewater treatment in terms of dealing with variations (e.g., flow, and metal and SS concentrations, etc.), allowing a longer retention period and consequently resulting in more effective treatment.</p> <p>Regarding the domestic wastewater treatment system, the Proponent indicates on page 3-47 of the EIS that site investigations will be required to determine the viability of this type of system. On page 3-48, the Proponent states that the location of the absorption field is shown on Map 3-2. However, this structure does not seem to appear on the map like the text claims.</p> <p>In terms of the accumulation pond, the MELCC, in the Supplement to the EIS (Responses to questions and comments from MELCC), informs the Proponent that the pond must have an emergency spillway.</p>	<p>provide an explanation.</p> <p>C) Describe the site investigations that were conducted on the viability of a domestic wastewater treatment system and the conclusions drawn from these investigations.</p> <p>D) Illustrate on Map 3-3 (p. 3-37 of the Environmental Impact Statement): the diversion point for the final effluent; the domestic wastewater treatment system and its discharge point; and the discharge point for the accumulation pond's emergency spillway.</p>
28	ECCC	5.7	Vol. 1 Section 3.7  Supplement to the EIS for MELCC (p. 17)	<p><b>Project description – Treatment of mine water</b></p> <p>The Proponent asserts that “[translation] owing to the removal of suspended solids (SS), other criteria such as those for metals will be respected”.</p> <p>This statement corresponds to the SS-bound metals portion but not to the dissolved metals portion.</p>	<p>The Proponent must:</p> <p>A) Explain in detail how metals not bound to suspended solids will be monitored and treated before the release of effluent.</p> <p>B) Explain the anticipated efficacy of the wastewater treatment unit and how it will be able to reduce metal concentrations in the effluent before it is released.</p>
29	DFO	5.7	Vol. 1 Section 3.7.2  Supplement to the EIS for MELCC (pp. 19 and 22)	<p><b>Project description – Impacts of dewatering water discharges on mean monthly flows</b></p> <p>Table 2.9 in the February 2019 Supplement to the Environmental Impact Statement shows the impacts of the project on mean monthly flows in years 1, 4, 9, 13 and 17 for the option with three discharge points. Despite the title of the table, the last two periods do not appear in the table.</p>	<p>Since the three-discharge-point option was retained according to the information sent to Quebec's ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC), the Proponent must complete Table 2.9 by including data for years 13 and 17.</p>
30	ECCC DFO		Vol. 1 Sections 3.7.1 and 3.7.2 Map 3-3 (p. 3-37)	<p><b>Project description – Dewatering water</b></p> <p>The Proponent, in answering Question QC-37 from Quebec's ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC), states that “[translation] the dewatering of the pit will not be done through the nine wells but rather by pumps inside the pit (...). CEC [Critical Elements Corporation] is committed to carrying out the interim monitoring of the quality of the water pumped</p>	<p>The Proponent must:</p> <p>A) Provide an updated version of Map 3-3 in the Environmental Impact Statement (EIS) showing the Lake 3 dike, the nine peripheral wells and where the water from each well will be discharged (Lake 3, Lake 4 and towards the final effluent).</p>

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			<p>Supplement to the EIS for the CEAA</p> <p>Supplement to the EIS for MELCC (pp. 19 and 22)</p> <p>EIS (2018), Vol. 1</p>	<p>out by the peripheral wells (dissolved oxygen, metals, flows, etc.), before it is mixed with other water.”</p> <p>In its response to MELCC, the Proponent also says that the management of the water from the wells on the periphery of the pit was reviewed in the fall of 2018 and that, according to the data from the hydrogeology study (Appendix QC-29a of the response document to MELCC), this water would be directed to Watercourse A and Lakes 4 and 6. In addition, the Proponent states that the flow diagram (Appendix QC-29b of the response document to MELCC) would have to be revised again and would then be sent to MELCC.</p> <p>The revised flow diagram is crucial in allowing a thorough understanding of the issues involved in the project. Map 3-3 in the Environmental Impact Statement (EIS) must also reflect these modifications.</p> <p>According to the EIS, the Proponent plans to construct settling ponds near the receiving environments (Lakes 4 and 6) to provide groundwater oxygenation and ensure temperature stabilization before the water is released into the receiving environment.</p> <p><b>Note:</b> As mentioned in the discussions between the Proponent and Environment and Climate Change Canada in September 2018, the pumping water from the peripheral wells is defined as mine water effluent under the terms of the <i>Metal and Diamond Mining Effluent Regulations</i> and must be sampled, monitored and managed in accordance with the requirements of these regulations.</p>	<p>B) Indicate the location of the settling ponds on Map 3-3, provide details on the size of each pond (volume, average depth) and indicate how they will be sealed.</p> <p>C) Provide additional details (list of parameters to be measured, frequency of measurements, whether each well will have a sampling station, etc.) on how the quality of the pumping water that will be discharged directly into the environment without treatment will be monitored and on the measures to be implemented in the event that the quality of this water is unsatisfactory.</p> <p>D) Provide a revised version of the flow diagram shown in Appendix QC-29b of the Supplement to the EIS for MELCC.</p>
<b>General comments</b>					
31	CEAA		Vol. 1 Section 6.4	<p><b>General comments – Areas for studying projects’ effects on physical and biological components</b></p> <p>In a number of sections of the Environmental Impact Statement—notably 6.4 (Surface water and sediment quality), 7.1 (Vegetation and wetlands), 7.2 (Aquatic fauna), 7.3 (Herpetofauna), 7.4 (Avifauna) and 7.5 (Mammals)—the Proponent identifies, within the spatial boundaries of the area used to describe the effects of the project, a specific “area of influence” for which the number of kilometres around the project depends on the component under study. However, it is important to understand how such areas of influence were determined.</p>	<p>The Proponent must:</p> <p>A) For each component for which an “area of influence” is used to assess the effects of the project, explain how the distance from the project was determined.</p> <p>B) Explain how that the project’s effects will be restricted inside this area of influence.</p>
32	CEAA		Vol. 1 Table 5-6 Table 13-2 Table 13-3	<p><b>General comments – Mitigation measures</b></p> <p>A number of times, in enumerating mitigation measures in tables 5-6, 13-2 and 13-3, the Proponent uses vague and loosely worded statements such as “when</p>	<p>The Proponent must:</p> <p>A) Reformulate and specify all the mitigation measures to eliminate any wording that raises doubts about the Proponent’s intentions of implementing</p>

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				<p>possible” or “as far as possible”. This wording raises doubts about the Proponent’s intentions of implementing these measures. Mitigation measures must be precise, measurable and technically and economically feasible.</p> <p>On page 4-10 of the Environmental Impact Statement, it is stated that “[translation] CEC will limit when possible the noisiest activities near hunting areas identified previously in concert with users”. Standard mitigation measures A1, B1, C5, L3, L5 and P3 and certain specific mitigation measures also contain this type of wording.</p>	<p>them or clarify in which circumstances such measure would be implemented.</p> <p>B) Revise Tables 5-6, 13-2 and 13-3.</p>
<b>Methodology for assessing effects on the environment</b>					
33	CEAA	13	Vol. 1 Sections 5 and 5.2.3	<p><b>Methodology – Justification of the use of criteria for evaluating effects’ significance</b></p> <p>On page 5-16 of the Environmental Impact Statement (EIS), the Proponent indicates that the criteria taken into account in assessing the significance of the project’s residual effects are: magnitude (intensity), including the notions of ecological and social contexts; the frequency of effects and also their reversibility; geographic extent; duration; and environmental standards, guidelines and objectives.</p> <p>The Proponent also explains that the criteria used to describe the degree of significance of residual effects consist of magnitude, geographic extent, duration and probability of occurrence.</p> <p>However, these criteria and sub-criteria are not systematically described and justified for each assessment of a residual effect’s significance. For example:</p> <ul style="list-style-type: none"> <li>• In section 6.2.7.2 of the EIS (p. 6-29, Hydrology), the degree of disturbance is deemed moderate and the extent of the groundwater flow modification is deemed to be local, but the justification for these assessments is not explained.</li> <li>• In section 6.4.7 of the EIS (p. 6-68, Surface water and sediment quality), the duration of the effect is deemed to be long term, without explanation.</li> <li>• In section 6.5.8 of the EIS (p. 6-83, Groundwater quality), the Proponent indicates that the probability of occurrence of an accidental spill is low during the construction phase and moderate during the operation phase, without explanation.</li> <li>• In section 6.3.6 of the EIS (p. 6-53, Hydrogeology): <ul style="list-style-type: none"> <li>○ Construction phase: disturbance is deemed to be low and magnitude is then assessed as low without indicating the value. The probability of occurrence is assessed as moderate, without explanation.</li> </ul> </li> </ul>	<p>The Proponent must:</p> <p>A) Describe and justify how the criteria (magnitude, geographic extent, duration, probability of occurrence) and sub-criteria (ecological and social contexts; frequency; reversibility; environmental standards, guidelines and objectives) were assessed for each valued ecosystem component (VEC). This description and justification must be provided not only for the examples cited here but for all VECs. The examples given are not exhaustive.</p> <p>B) When some sub-criteria do not apply to a component, indicate this clearly to show that it is not an omission and rather that the criterion does not apply to the component(s). For example, the ecological context may only apply to some VECs.</p>

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				<ul style="list-style-type: none"> <li>Operation and maintenance phase: the magnitude of the effect on the <i>pattern of flow</i> is deemed low and on <i>groundwater lowering</i>, moderate, without specifying the degree of disturbance or value.</li> <li>Closeout phase: the magnitude is deemed low without explaining the value or degree of disturbance.</li> </ul>	
34	CEAA		All issues	<p><b>Methodology – Analysis of residual effects (general)</b></p> <p>According to the Environmental Impact Statement (EIS) Guidelines (section 12.1.1), “after having established the technically and economically feasible mitigation measures, the EIS should present any residual environmental effects of the project on the biophysical and human environments after these mitigation measures have been taken into account. The residual effects, even if very small or deemed insignificant, should be described.”</p> <p>Based on the comments made and information requested by the Agency in this information request, the residual effects analysis must be revised when required—for example, when new mitigation measures are proposed (tables 13-2, 13-3 and 13-4) or additional effects are assessed.</p>	<p>Taking account of the elements requested in this document, the Proponent must:</p> <p>A) Revise the residual effects analysis when required and provide a new justification for the revised conclusion on the significance of residual effects.</p> <p>B) Update tables 13-2, 13-3 and 13-4.</p>
<b>Hydrogeology</b>					
35	NRCan	6.4 9.1.2	Vol. 2 RS-2 (Section 5.2.1 and Map 7)	<p><b>Hydrogeology – Boundary conditions of the upper layer of the calibrated flow model</b></p> <p>In section 5.2.1 of Sectoral Report 2 (RS-2) in the Environmental Impact Statement, the Proponent establishes external boundary conditions. In Map 7, the southwestern boundary – surface elevation for a constant hydraulic load is shown in violet. However, the map does not show what this load, at the western boundary of the calibrated model, corresponds to.</p>	The Proponent must indicate what the hydraulic load at the southwestern boundary of the calibrated model shown in Map 7 of Sectoral Report 2 corresponds to.
36	NRCan	6.4 9.1.2	Vol. 2 RS-2 (Section 6.3.3)	<p><b>Hydrogeology – Calibration of groundwater flow model</b></p> <p>In section 6.3.3 of Sectoral Report 2 (RS-2) in the Environmental Impact Statement, the Proponent presents the water balance derived from the calibrated groundwater flow model, adding that “[translation] the 0.0005% error in the water balance indicates that the calibration was done correctly”. However, a digital model’s water balance indicates whether the simulation has converged, not whether calibration is satisfactory.</p>	The Proponent must explain why the calibration of the groundwater flow model balance in terms of the water balance is satisfactory.
37	NRCan	6.4 9.1.2	Vol. 2 RS-2 (Sections 6.4.1 and 6.4.2)	<p><b>Hydrogeology – Mapping of hydraulic conductivities</b></p> <p>In section 6.4.1 of Sectoral Report 2 (RS-2) in the Environmental Impact Statement, the Proponent presents the calibrated and measured hydraulic conductivities for the various hydrostratigraphic units (Table 21). However, it is</p>	<p>The Proponent must:</p> <p>A) Provide a map of estimated hydraulic conductivities on the project site.</p> <p>B) Provide a map of calibrated hydraulic conductivities.</p>



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				difficult to determine how these hydraulic conductivities are distributed geographically.	
38	NRCan	6.4 9.1.2	Vol. 2 RS-2 (Sections 7.1 and 7.4)	<p><b>Hydrogeology – Figures showing results of hydrogeological computer simulations</b></p> <p>In sections 7.1 and 7.4 of Sectoral Report 2 (RS-2) in the Environmental Impact Statement, the Proponent refers to figures 3, 4, 5 and 6, but these figures are missing in the RS-2 study.</p>	The Proponent must provide figures 3, 4, 5 and 6 mentioned in sections 7.1 and 7.4 of Sectoral Report 2.
39	NRCan	6.4 9.1.2	Vol. 2 RS-2 (Appendix 3)	<p><b>Hydrogeology – Normalized drawdowns from slug tests in wells</b></p> <p>The Proponent provides the results of permeability analyses in Appendix 3 of Sectoral Report 2 (RS-2) in the Environmental Impact Statement. However, some of the slug test graphs show normalized drawdowns (h/h<sub>0</sub>) greater than the value of 1.000, which is unusual (for example: PO-16-08S - Tests 1 and 2, PO-16-02S – Tests 1 and 2, PO-16-04S – Tests 1 and 2).</p>	The Proponent must explain and/or correct the results of the slug tests that show normalized drawdowns greater than 1.000.
40	NRCan	6.4 9.1.2	Vol. 2 RS-2 (Section 7.1)	<p><b>Hydrogeology – Modelling of pit dewatering</b></p> <p>In Sectoral Report 2 (RS-2), the Proponent presents the approach used in modelling pit dewatering. According to section 7.1 of the report, the model shows that hydraulic loads at greater depths (100 m) exceed those at the surface (topwall). However, this statement seems counterintuitive and it is difficult to know whether this is linked to the approach used by the Proponent in modelling pit dewatering.</p> <p>In sections 6.6 and 7.1, the Proponent indicates that wells along the periphery of the pit were used, while in sections 6.6.4 and 6.6.5, the text also mentions the use of drains.</p>	<p>To clarify the modelling approach chosen, the Proponent must:</p> <ul style="list-style-type: none"> <li>A) Specify whether pumping water from the wells was implemented for all cells representing wells or only for a limited range.</li> <li>B) Regarding the simulation for the end of the operation phase, specify whether, in the computer model, the materials making up the pit were removed and if so, explain how the boundary conditions representing the pit walls were defined.</li> <li>C) Indicate what surface boundary condition was used in the FEFLOW software (for example: unstructured mesh with unconfined aquifers, fixed mesh).</li> <li>D) To facilitate comprehension, present sections showing the distribution of hydraulic loads before and after dewatering.</li> </ul>
41	NRCan		Sectoral Report RS-2	<p><b>Hydrogeology – Modelling of effects of pit dewatering</b></p> <p>According to Map 13, the drawdown caused by pit dewatering reaches the southern boundaries of the flow model. It can therefore be anticipated that the effect of dewatering on lakes and watercourses could extend beyond what has currently been modelled.</p>	To complete the assessment of these effects, the Proponent must assess the impact of pit dewatering on the lakes and watercourses located beyond the current southern boundary of the flow model or justify the southern boundary that is excluding lakes and watercourses.
42	NRCan		Sectoral Report RS-2	<p><b>Hydrogeology – Impact of pit back-flooding on lakes and watercourses</b></p> <p>When the mine closes, pumping will be discontinued inside the pit and on its periphery, and the pit will back flood gradually. Consequently, for a while, a loss of flow to the lakes and watercourses in the mine's area of influence is expected,</p>	The Proponent must provide an estimate of how long it will take for lakes and watercourses to return to their natural conditions, as well as the water losses that will occur during this transition period. The post-closure monitoring period must be adjusted accordingly.



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				since pit dewatering water will no longer be available to completely eliminate the impact on these water masses.	
43	CEAA	13	Vol. 1 Section 6.3.6  Supplement to the EIS for the CEAA (Appendix 1)	<p><b>Hydrogeology – Significance of residual effects and irreversibility</b></p> <p>The irreversibility is defined on page 5-26 of the Environmental Impact Statement (EIS): “[translation] an effect is considered irreversible if the baseline conditions for a component (i.e., before the project) cannot be restored at the end of the project phase or phases affecting it, after the implementation of mitigation and improvement measures. It is then termed a permanent project effect.”</p> <p>In section 6.3.6 on the significance of residual effects (Hydrogeology):</p> <p>A) <b>Construction phase:</b> According to the Proponent, the effect will be of short-term duration and flow conditions will be restored to baseline values after the completion of work. According to the definitions provided in the EIS (page 5-27), an effect is of long-term duration when it is “[translation] experienced on a continuing or sporadic basis for a period exceeding five years; such effects are often permanent in nature” while short-term duration is “[translation] when an effect is experienced on a temporary, continuing or sporadic basis during the construction or close-out phase or for a few months after the beginning of the operation and maintenance phase; these effects last from a few days to the entire construction phase, including a few months at the beginning of the operation phase.”</p> <p>B) <b>Operation and maintenance phase:</b> The Proponent states that the effect will be reversible. However, the equilibrium reached once the work is over will not be the same as it was before the project. Indeed, the flow pattern will be modified, since infrastructure will remain in place and two lakes will disappear.</p> <p>C) <b>Closeout phase:</b> The Proponent states that the effect will be medium-term in duration since eventually a state of equilibrium will be reached in the rock formation. The Proponent does not provide any other explanation for this assessment. In Section 5.4.2 of Appendix I (Hydrogeology) in the Supplement to the EIS (February 2019), the Proponent estimates that the pit will take roughly 26 years to fill up completely and will then overflow. The definition of medium-term duration, found on page 5-27 of the EIS, is “[translation] when an effect is experienced on a temporary, continuing or sporadic basis, during the operation and maintenance phase, in other words, after the end of the construction phase; these effects last for a number of months after the end of the construction work but for less than five years.”</p>	<p>The Proponent must:</p> <p>A) Indicate for how many months or years the effect on the flow regime will be experienced after the construction work. Specify whether the equilibrium reached at the end of the work will be the same as before the construction phase, i.e., indicate if the effect is reversible or irreversible. Revise the assessment of duration if necessary.</p> <p>B) Specify whether the hydrogeological equilibrium reached at the end of the work will be the same as before the operation and maintenance phase, i.e., indicate if the effect is reversible or irreversible. Revise the assessment of duration if necessary.</p> <p>C) Indicate how many months or years it will take for a hydrogeological equilibrium to be reached after the close-out phase. Specify whether the equilibrium will be the same as before construction, i.e., indicate if the effect is reversible or irreversible. Revise the assessment of duration if necessary.</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
<b>Surface water and sediment quality</b>					
44	CEAA	10	Vol. 1 Section 6.4.2	<p><b>Surface water and sediment quality – Spatial boundaries for analyzing effects on water quality and the area of influence</b></p> <p>In section 6.4.2 of the Environmental Impact Statement (EIS), the Proponent indicates that an area of influence was established to assess the project's effects on surface water and sediment quality. This area of influence takes in all the planned infrastructure as well as a portion of the subwatersheds of Watercourses D, E and F (see Map 6-10 in EIS).</p>	The Proponent must explain in detail how the area of influence was determined for assessing the project's effects on the quality of surface water and sediments.
45	CEAA HC	9.1 9.1.1 11	Vol. 1 Section 6.4.6.2 and Table 13-2	<p><b>Surface water and sediment quality – Use of nitrates during the manufacture and operation of explosives</b></p> <p>The Proponent states that, to limit the project's effects on surface water and sediment quality, particularly as a result of the presence of ammonium nitrates at the project site, "[translation] employees will be encouraged to use the quantities recommended by the explosives manufacturer".</p>	To limit the environmental release of nitrates, the Proponent must confirm if employees will be required to use the manufacturer-recommended quantities of ammonium nitrate when making explosives (rather than just "encouraged"). In the latter case, justify the choice.
46	ECCC	5.7	Supplement to the EIS for MELCC (p. 38)	<p><b>Surface water and sediment quality – Additional sampling campaign</b></p> <p>In response to Question QC-55 from Quebec's ministère de l'Environnement et de la Lutte contre les changements climatiques, the Proponent states that "[translation] an additional surface water sampling campaign is planned in the spring of 2019 in order to cover this season of the year, which was not sampled in 2018".</p> <p>An additional round of sampling in spring is recommended to better represent seasonal variations in surface water quality. Adding radium, mercury and thallium to the parameters to be measured in Watercourse A during the 2019 spring campaign is also necessary, in order to establish a more complete baseline for this watercourse. These substances must be measured as part of water quality monitoring under the Environmental Effects Monitoring (EEM) program required pursuant to the <i>Metal and Diamond Mining Effluent Regulations</i>.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Submit the results of the additional sampling campaign in 2019, particularly the results of water quality characterization in Lakes 18 and 19 and Watercourse A.</li> <li>B) Add radium, mercury and thallium to the parameters to be measured in Watercourse A during the 2019 spring campaign in order to establish a more complete baseline for this watercourse. These substances must be measured as part of water quality monitoring under the Environmental Effects Monitoring (EEM) program required pursuant to the <i>Metal and Diamond Mining Effluent Regulations</i>.</li> </ul>
47	ECCC-33	9.1.2	Supplement to the EIS for the CEAA (p. 13)	<p><b>Surface water and sediment quality – Rates of seepage through the various water control structures</b></p> <p>The seepage rates through the various water control structures, including sedimentation ponds, accumulation ponds and ditches, must be known in order to assess surface water and groundwater quality at the site.</p> <p>In the Supplement to the Environmental Impact Statement, the Proponent answers the question about estimating the seepage rates through the various water control structures (including sedimentation and accumulation basins) by stating that</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Provide the results of the calculations of seepage rates through the various water control structures such as ponds and ditches.</li> <li>B) Explain the value provided for the percolation coefficient (0.65) and whether it is conservative or optimistic. The Proponent could carry out a sensitivity analysis by using a range of percolation coefficients and by comparing the various seepage rates for the structures.</li> </ul>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
				<p>"[translation] the percolation coefficient (PC) used in the calculations for the ponds and ditches is 0.65".</p> <p>The Proponent does not provide the seepage rates for the different structures and does not explain the value given for the percolation coefficient.</p>	
48	ECCC	5.7	Supplement to the EIS for MELCC (p. 38)	<p><b>Surface water and sediment quality – Physicochemical characterization of lakes 18 and 19</b></p> <p>The physicochemical characterization of the water quality in lakes 18 and 19 was not carried out. However, this type of characterization is required to establish the baseline conditions in these lakes, given the fact that they are located near the co-disposal facility for waste rock and tailings. A certain amount of dust deposition can be expected in these lakes during the mine site operation.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Carry out the physicochemical characterization of lakes 18 and 19 as part of the water quality sampling campaign planned in 2019.</li> <li>B) Present the results of the additional sampling campaign in 2019, particularly the results of water quality characterization in lakes 18 and 19 and Watercourse A.</li> </ul>
49	CEAA SVP		<p>Vol. 1 Section 6.4.4.2</p> <p>Vol. 2 RS-4</p>	<p><b>Surface water and sediment quality – Baseline conditions for sediments</b></p> <p>Data on the baseline conditions for sediments are presented in Sectoral Study RS-4. These sediment quality data will serve as a baseline for follow-up studies, to determine whether mine activities have contaminated watercourses downstream of the mine.</p> <p>Regarding these baseline conditions, in section 6.4.4.2 of the Environmental Impact Statement (EIS), the Proponent states that "[translation] although many metals were not detected, the detection limits are low enough to be able to assert that no contamination is present, particularly in the case of arsenic, chromium, mercury, nickel and lead, for which quality criteria have been established".</p> <p>Table 6 of Sectoral Study RS-4, included in Volume 2 of the EIS, shows that the reported detection limits (RDLs) chosen cannot be used to determine whether measured concentrations are below the rare effect levels (REF) for all metals for which criteria have been established (arsenic, cadmium, chromium, copper, total mercury, lead and zinc). In addition, the RDLs cannot be used to determine if concentrations are below the threshold effect level (TEL) in the case of cadmium, chromium, copper and total mercury.</p> <p>In section 2.5.2 of Sectoral Study RS-4, the Proponent states that "[translation] to prevent sediment contamination potentially resulting from the release of industrial effluents in a watercourse, the analytical results will be compared with the quality criteria, allowing changes in the situation at a site to be monitored and, when the TEL is reached, indicating the beginnings of contamination".</p> <p>In section 2.5.2 of Sectoral Study RS-4, the Proponent adds that "[translation] in terms of a few values for cadmium, copper and zinc that exceed the TEL, they <u>probably</u> correspond to regional background levels and are not of concern". This</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) In the case of the contamination of sediments by mining activities and their remediation by the Proponent, indicate the quality criterion in <i>Criteria for the Assessment of Sediment Quality in Quebec and Application Frameworks: Prevention, Dredging and Remediation</i> (Environment Canada and ministère du Développement durable, de l'Environnement et des Parcs du Québec, 2007) with which the Proponent intends to comply.</li> <li>B) Explain why data on background levels (baseline condition) of contaminants in sediments are reliable and truly representative of baseline conditions—in other words, that the results obtained, particularly those exceeding the TEL, are not associated with sediment contamination resulting from the drilling activities carried out upstream of the project's area of influence since 2009. Redo sediment sampling if it is demonstrated that the samples could have been contaminated by drilling activities and explain how this round of sampling excludes sites contaminated by drilling activities.</li> </ul>

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				<p>claim by the Proponent is far from certain and does not seem to be supported. In addition, according to the Proponent (Section 1.3 of the EIS), drilling activities have taken place since 2009 upstream of the project's area of influence and could explain these high values.</p> <p>The Société pour Vaincre la Pollution (SVP) has prepared a map, found in Appendix 2 of this document, showing the planned Rose Mine (CEC) facilities. The map, which is based on technical data provided by CEC, illustrates the locations of the drilling activities carried out by CEC between 2009 and 2017 (Appendices 3 and 4 of this document). The map shows that boreholes were drilled in the area of the planned pit, as well as upstream of the mine site (south of Lake 3), which likely generated drilling waste such as mud, oils and drill water that may have spilled on the ground. If this indeed occurred, this waste could have contaminated surface water and sediments in lakes 1, 2 and 3 and the watercourse downstream of the mine's area of influence (surface water drainage area). SVP's map also identifies other watercourses (northeast of the mine site, in the Eastmain River watershed) that may also have been contaminated by the drilling work. Watercourses downstream of these drilling sites were also potentially affected and should not be used to provide baseline data (background levels) according to SVP.</p>	
50	CEAA		Vol. 1 Section 6.4.7	<p><b>Surface water and sediment quality – Socioeconomic value of water quality</b></p> <p>In Chapter 6.4, the Proponent deems surface water quality to be of moderate socioeconomic value. According to the Proponent's definition on page 5-25, moderate socioeconomic value is assigned "[translation] when the component is valued for economic, social or cultural reasons or is used by a significant proportion of the population concerned, but is not legally protected".</p> <p>High socioeconomic value is assigned when "[translation] the component is the subject of legal or regulatory protection measures (threatened or vulnerable species, recognized wildlife habitat, conservation parks, etc.), provides ecological services to human beings (e.g., wetlands filtering water) or is essential to human activities (drinking water, recognized archeological sites)".</p> <p>The socioeconomic value assigned to the valued ecosystem component "surface-water quality" seems to be underestimated.</p>	The Proponent must review its assessment of the project's effects on surface-water quality, a valued ecosystem component, and bear in mind that the <i>Fisheries Act</i> protects waters that provide fish habitat.

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<b>Groundwater quality</b>					
51	SVP		Vol. 1 Section 6.5.4.2	<p><b>Groundwater quality – Baseline conditions and upstream drilling activities</b></p> <p>Data on baseline conditions for groundwater are provided in Sectoral Study RS-3. These data will serve as a baseline for follow-up studies to determine whether the groundwater downstream of the mine has been contaminated due to mining activities.</p> <p>The Société pour Vaincre la Pollution (SVP) has prepared a map, found in Appendix 2 of this document that illustrates the planned Rose Mine (CEC) facilities. The map, which is based on technical data provided by CEC (Chapter 1.3 of the Environmental Impact Statement (EIS)), illustrates the location of the drilling activities carried out by CEC between 2009 and 2017 (Appendices 3 and 4 of this document). The map shows that boreholes were drilled in the area of the planned pit, as well as upstream of the mine site (south of Lake 3), which likely generated drilling waste such as mud, oils and drill water that may have spilled on the ground. If this indeed occurred, this waste could have contaminated the groundwater throughout the Rose Mine site.</p> <p>On page 6-77 of the EIS, the Proponent states: “[translation] Among the 20 [groundwater] samples analyzed during the first sampling campaign (April 2017), only one sample (PO-16-06R) had values below the criteria (for surface water resurgence [SWR] and the warning threshold [WT]) [...] Among the 21 samples analyzed during the second sampling campaign (July 2017), only one sample (PO-16-13R) had values below the SWR and WT criteria.” According to the Proponent, high concentrations of copper, aluminum and zinc were found. According to SVP, these concentrations may be linked to exploration drilling rather than background levels (baseline conditions).</p>	<p>The Proponent must explain why the baseline data for groundwater are reliable and accurately represent baseline conditions, in other words, that the results obtained were not influenced by exploration drilling carried out upstream of the samples. Redo the groundwater sampling if it is demonstrated that samples may have been contaminated by drilling activities and explain how this round of sampling excludes locations contaminated by drilling activities.</p>
52	CEAA	11	Vol. 1 Section 6.5.6.1	<p><b>Groundwater quality – Mitigation measures to prevent accidental spills</b></p> <p>In Chapter 6.5 on groundwater quality, the Proponent states that there is a risk of groundwater contamination during an accidental spill of hydrocarbons, solvents or any other hazardous liquids (p. 6-80), indicating that “[translation] if the volume of the spill is large enough, the unattached [to soil] portion of the product will migrate to the groundwater body, leaving a pure floating or fluid phase depending on the density of the liquid, part of which will be dissolved in the groundwater”. The Proponent adds that “[translation] in the event of a spill, the emergency response plan will quickly be implemented, which will reduce the extent of contamination and prevent the groundwater from being contaminated”.</p> <p>The Proponent also states that “[translation] machinery will be inspected before its first use and regularly afterwards”. The Proponent further states that “[translation]</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Specify the meaning of “regularly” with respect to the mitigation measure involving machinery inspections to reduce the risk of groundwater contamination (for example, weekly, daily or monthly inspections).</li> <li>B) Specify what “necessary precautions” means with respect to the mitigation measure involving groundwater quality in the statement: “[translation] the necessary precautions will also be taken to prevent oil and fuel spills during the refuelling of vehicles, machinery and equipment” (for example, the use of impermeable textiles, drain pans and guards around tanks to protect them from collisions).</li> </ul>

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				<p>the necessary precautions will also be taken to prevent oil and fuel spills during the refuelling of vehicles, machinery and equipment”.</p> <p>The Proponent states that “[translation] the refuelling (of oils and fuel) will be carried out under constant surveillance and at designated refuelling sites”.</p>	C) Identify the designated hydrocarbon refuelling sites on a map. Specify how far these sites will be from any water body or watercourse and explain how the distance chosen will minimize contamination risks.
<b>Soil quality</b>					
53	ECCC	10.1.2	Vol. 1 Sections 3.10.3 and 6.6.5	<p><b>Soil quality – Contamination</b></p> <p>Section 3.10.3 (ore stockpile) states that “[translation] in the event that certain areas are contaminated, the soil will be excavated and treated in situ or at an authorized centre. Ore storage and loading sites will also be characterized before the restoration.”</p> <p>However, in section 6.6.5, no mention is made of the possible effect(s) associated with temporary ore storage. Although a number of activities are identified as potentially having effects on soil quality throughout the project, the only risk addressed is that of soil contamination from an accidental spill of hydrocarbons, solvents or other hazardous liquids.</p> <p>Furthermore, no mention is made of what the Proponent intends to do if the results of the characterization of soils in ore storage and loading areas show contamination.</p>	<p>The Proponent must:</p> <p>A) Provide a detailed description, for each project phase (construction, operation, closeout and restoration) of all the possible environmental effects associated with potentially contaminated soils, resulting from either accidental spills or the presence of ore storage and loading areas.</p> <p>B) Explain how soils in the ore storage and loading areas will be managed in the event of contamination.</p>
54	CEAA	10	Vol. 1 Section 6.6.7	<p><b>Soil quality – Probability of occurrence of effects on soils</b></p> <p>In section 6.6.7 (significance of residual effects on soil quality), the Proponent indicates that:</p> <ul style="list-style-type: none"> <li>• During the construction phase, the “[translation] probability of occurrence is considered low, given the fact that the effect will only occur in the event of an accidental spill during the work”.</li> <li>• During the operation and maintenance phase, “[translation] the probability of occurrence is moderate in terms of the risk of accidental spills”.</li> <li>• During the close-out phase, “[translation] the probability of occurrence is moderate”.</li> </ul> <p>However, the Proponent does not provide any explanation for these assessments during the operation and maintenance phase, and the close-out phase.</p>	The Proponent must explain the reasons why the probability of occurrence of an effect on soils is deemed to be moderate during the operation and management phase, and the close-out phase.
55	CEAA	10	Vol. 1 Section 6.6.7	<p><b>Soil quality – Significance of effects on soils</b></p> <p>According to the Proponent, soil contamination occurring during the operation and maintenance phase will likely be of long-term duration, “[translation] since the effect will be experienced on a continuing and irreversible basis”. The definition of</p>	<p>The Proponent must:</p> <p>A) Specify whether there are plans to decontaminate areas contaminated as a result of project activities, including accidental spills.</p>



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				<p>long-term duration, provided on page 5-27 of the Environmental Impact Statement (EIS), is “[translation] when an effect is experienced on a continuing or sporadic basis, over a period exceeding five years; such effects are often permanent in nature.”</p> <p>Should such an event occur during the close-out phase, the Proponent evaluates the duration as medium-term, “[translation] since the site will gradually regain a natural appearance owing to the restoration”. The definition of medium-term duration, provided on page 5-27, is “[translation] when an effect is experienced on a temporary, continuing or sporadic basis, during the operation and maintenance phase, in other words, after the end of the construction phase; such effects last for a number of months after the end of construction but for less than five years.”</p> <p>On page 5-26 of the EIS, the Proponent defines irreversibility as occurring “[translation] if the baseline conditions for a component (i.e., before the project) cannot be restored at the end of the project phase or phases affecting it, after the implementation of mitigation and improvement measures. It is then termed a permanent project effect.”</p>	<p>B) Indicate whether the natural appearance found after the restoration phase will be the original one (reversible) or a different one (irreversible). Adjust the effect’s significance on soil quality if required.</p> <p>C) Indicate if the natural appearance will be attained in more than five years (long-term duration) or less than five years (medium-term duration) after restoration. Adjust the effect’s significance on soil quality if required.</p>
<b>Air quality</b>					
56	ECCC	9.1.2	Vol. 1 Section 6.9.5 (p. 6-147-148)	<p><b>Air quality – Initial concentrations of PM<sub>2.5</sub></b></p> <p>The initial concentrations recommended by the Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques for northern projects when these projects are remote from other sources will be used to assess the impact of the project’s atmospheric emissions. As indicated in note 2 of Table 6-58 of the EIS, since no initial concentration is recommended for PM<sub>2.5</sub> over a one-year period, the baseline value that will be used was determined according to measurements at the Pémonca station “[translation] located in a region representative of the study site, compared to the other stations available”.</p>	<p>The Proponent must:</p> <p>A) Document in greater detail the reasons for choosing the Pémonca station among the other stations to establish the initial concentration of PM<sub>2.5</sub>.</p> <p>B) Provide the names of the other stations considered, their locations as well as the contaminants measured.</p>
57	ECCC	10.1.2	Vol. 2 RS-6 Section 3.6.3 (p. 19) Appendix: Tables A 13 and A 14	<p><b>Air quality – Emissions from road transport</b></p> <p>Concerning the level of emissions from trucking during the construction and operation scenarios, the average height of the trucks varies depending on the road segment used for no apparent reason (this would be the case when trucks of different heights are used). For example, in Table A 14, the height of the trucks for the road segment between P01 and P02 is 4.8 m, and between P02 to P05 it is 4.3 m. Then, the height between P02 and P06 is 5.3 m. It would appear that P02 represents an unloading point.</p> <p>In addition, although a column in Tables A 13 and A 14 indicates a mitigation rate of 75%, the emission levels indicated in fact represent levels without mitigation.</p>	<p>The Proponent must:</p> <p>A) Describe what type of activity will take place at point P02, for example, loading, unloading, storage, etc.</p> <p>B) If point P02 is a material storage site, justify the reason why it was missing in the calculation of sources of emissions from road transport or, if it was taking into account, include it in the calculation.</p> <p>C) If there is a variation in the height of the trucks for the other road segments, justify this variation or make the relevant corrections.</p>



Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
					D) In order to facilitate examination of the levels of emissions from road transport, also present the data calculated with the mitigation rate in tables A 13 and A 14.
58	ECCC	10.1.2	<p>Vol. 1 Section 5.2.2 Table 5-6 Section 6.9.3.1 Table 6-58</p> <p>Sectoral study RS-6: Section 2.3 and Table 1 Sections 2.3.2 and 4.2.1</p> <p>Supplement to the EIS for the CEAA: Appendix F</p> <p>Supplement to the EIS for the MELCC (p.16) and Second series of questions (p. 72 and 73) Appendix QC-7BIS: Ambient air quality monitoring program</p>	<p><b>Air quality – Dust management</b></p> <p>The results for particulate matter (TPM, PM<sub>10</sub> and PM<sub>2.5</sub>) show a value of approximately 120% of the standard for TPM established by the Quebec's ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC), and it appears that trucking "[translation] contributes to more than 90% of the maximums modelled", while the level of PM<sub>2.5</sub> is 86% of the standard established by the MELCC.</p> <p>Although there are no criteria for PM<sub>10</sub>, these particulates are criteria air contaminants (CAC) and should be assessed. The Proponent presented the modelling of PM<sub>10</sub> concentrations in Appendix F of the Supplement to the EIS of February 2019. The results obtained following this modelling show that the concentrations obtained are equivalent to 72% of the limit values for the 24-hour period, which is close to the limit established by the World Health Organization.</p> <p>In terms of mitigation measures for air quality, the Proponent includes in Table 5-6 several measures involving transport, traffic and machinery.</p> <p>In the documentation of the EIS, two additional measures were identified, but are not included in Table 5-6, namely: temporarily covering the waste rock piles with straw or granular materials, depending on the field and weather conditions, and minimizing insofar as possible the blasting of waste rock when the wind is blowing in the direction of the Cree camp (Supplement to the EIS: Responses to questions and comments from MELCC).</p> <p>Finally, in its answer to the question QC-6 of MELCC, the Proponent indicates that the environmental management program for ambient air quality will be improved with a dust management plan.</p>	<p>The Proponent must:</p> <p>A) In light of the modelling results of the concentrations of particulate matter, develop a dust management plan and an air quality monitoring program, such as the one presented in Appendix QC-7BIS, and undertake to implement it before the commencement of operations.</p> <p>B) Provide a copy the environmental management program for ambient air quality, improved with a dust management plan, as soon as possible.</p> <p>C) Add to the mitigation measures in Table 5-6 of the EIS temporarily covering the waste rock piles as well as reducing the blasting of waste rock when the wind is blowing in the direction of the Cree camp.</p>
59	ECCC	10.1.2	<p>Vol. 1 Sections 6.9 and 6.4.5</p> <p>Vol. 2 Sectoral study RS-6 (p. 24-25)</p> <p>Supplement to the EIS for the</p>	<p><b>Air quality – Sensitive receptors</b></p> <p>In the inset of section 6.9 (p. 6-142), the Proponent indicates that the Indigenous communities raised concerns about air quality and the dust generated by the project. The quantities of dust generated are not mentioned in Sectoral Report 6 (RS-6: Air quality) and the Proponent did not address the Indigenous peoples' concerns.</p> <p>In Sectoral study RS-6 (p. 12) and in the EIS (p. 6-148), the sensitive receptors identified for air quality are a Cree camp, C2 located at km 37 of the Nemiscau-</p>	<p>The Proponent must:</p> <p>A) Review the identification of the sensitive receptors for air quality and, where applicable, describe those that must be added, for example, wildlife, plants, water bodies near other Cree camps along the Nemiscau-Eastmain-1 road.</p> <p>B) Where applicable, add these sensitive receptors to the air quality modelling maps and indicate the contaminant concentrations projected for these receptors.</p>

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			MELCC: Appendix QC-7BIS	<p>Eastmain-1 road, belonging to trapline R19, as well as the workers' camp, located approximately 20 km from the project site. However, the latter receptor is located outside the modelling domain. In addition, the Proponent does not mention any other sensitive receptors for air quality.</p> <p>Although there are no specific standards in Quebec, estimating the deposition of dust is important, particularly in terms of the sensitive receptors identified, especially the water bodies near the mining project, including lakes 18 and 19.</p> <p>The Proponent also indicates on page 6-66 of the EIS that, during the operation and maintenance phase, wind erosion of mining waste is likely to generate dust which may be transported over great distances and may be deposited on the water bodies located near the dry tailings pile.</p>	<p>C) Provide the estimate of dust deposition, particularly in terms of the sensitive receptors identified, especially the water bodies near the mining project, including lakes 18 and 19 and the Cree camps along the Nemiscau-Eastmain-1 road.</p> <p>D) If other sensitive receptors are identified, indicate whether it would be relevant to install another sampling station for air quality monitoring, in addition to the one installed at the workers' camp.</p>
60	ECCC	10.1.2	<p>Vol. 1 Section 6.9.3.1 (p. 6-125) Table 6-58</p> <p>Vol. 2 Sectoral study RS-6 Section 2.3.2 (p. 4) Table 1 Section 4.1.4 (p. 31)</p>	<p><b>Air quality – Canadian ambient air standards</b></p> <p>As was mentioned during the last phase of concordance (2018) with the Guidelines for the preparation of the Environmental Impact Statement (EIS), the Canadian Council of Ministers of the Environment has established new Canadian Ambient Air Quality Standards (CAAQS) for nitrogen dioxide (NO<sub>2</sub>) effective 2020 and 2025. The conclusions presented in the EIS do not reflect the criteria of comparison for NO<sub>2</sub> effective for the 2020s. The Proponent did not indicate the CAAQS standards and criteria for NO<sub>2</sub>.</p>	<p>The Proponent must update the interpretation of the air quality results obtained for the construction and operation phases taking into account the new Canadian Ambient Air Quality Standards (CAAQS) for nitrogen dioxide: <a href="https://www.ccme.ca/en/current_priorities/air/caaqs.html">https://www.ccme.ca/en/current_priorities/air/caaqs.html</a></p>
61	ECCC	9.1.2	<p>Vol. 1 Section 6.9.5</p>	<p><b>Air quality – Impacts of forest fires</b></p> <p>On page 7-151 of the Environmental Impact Statement (EIS), it is indicated: “[translation] in a radius of 5 km around the mine, 99% of the surface is disrupted. The fire had disrupted around 83 % of this sector. In a radius of 5 to 10 km around the mine, 74% of the surface is disrupted. The fire cover around 70% of this surface.”</p> <p>In page 11-13 of the EIS, it is indicated: “[translation] In total, 58 fire has affected an area in a 50 km radius around the site between 1994 and 2014.” Furthermore, “the forecasts show that, by 2100, climate change should have accentuated favorable conditions for forest fires, rising the number of fire and their gravity. Consequently, the risk of forest fire on the project site is considered important.”</p> <p>In the section on current air quality conditions, the Proponent did not indicate whether the region where the project is located is subject to forest fires or describe</p>	<p>The Proponent must explain whether the region is subject to forest fires, and if so, describe their historical frequency and their impact on the air quality of the region and of the site concerned, where applicable.</p>

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				the impacts of forest fires on the air quality of the region and around the future mine site.	
62	ECCC	10.1.2	Vol. 1 Section 6.9.7.2 (p. 6-164)	<p><b>Air quality – Dust recovered by dust collectors</b></p> <p>Concerning the dust recovered by dust collectors, it is planned that this dust will be recycled, stored, spread or disposed of on the ground. However, few details are provided on these recycling, storage, spreading or disposal operations.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Describe in detail the operations for the spreading or disposal on the ground of the dust recovered from dust collectors and specifically explain at what location this spreading or disposal will take place.</li> <li>B) Explain how these methods of dust spreading and/or disposal will comply with the applicable acts, regulations and practices.</li> <li>C) Explain if the anticipated nature of the dust could pose a risk to the environment.</li> </ul>
63	ECCC	9.1.2	Vol. 1 Section 6.9	<p><b>Air quality – Initial ambient air</b></p> <p>The Proponent must provide information on the ambient air quality in the areas affected by the project as required by the guidelines (section 9.1.2: Biophysical environment). In section 6.9 of the Environmental Impact Statement, on pages 6-143 and 6-148, the Proponent indicates that there is no measurement of air quality for the study area and refers to this point to the inset on page 6-143: “[translation] Existing conditions: The project is located in a remote area where there are few industrial activities in the vicinity”.</p>	<p>The Proponent must describe the ambient air quality in the area affected by the project in sufficient detail to make it possible to obtain an adequate overview of the baseline state. To do this, evaluate the possibility of using data from measuring stations located in other regions that could be representative of the study site.</p>
64	ECCC	10.1.2	Vol. 2 Sectoral study RS-6: Sections 2.2, 2.4.3, 3.6 Maps 7, 8 and 8-A	<p><b>Air quality – Location and emissions from the tantalite storage site</b></p> <p>The tantalite storage site (DEP11) is not indicated on Map 8-A of Study RS-6. According to Appendix A, Table A-1, this source appears to have been taken into account for the modelling.</p>	<p>The Proponent must indicate the tantalite storage site on Map 8-A of Study RS-6 and confirm that the emissions from this source were counted. If not, justify this decision.</p>
65	ECCC	10.1.2	Vol. 2 Sectoral study RS-6: Section 3.6.1	<p><b>Air quality – Emissions from the crushing line</b></p> <p>A ratio of PM<sub>2.5</sub>/TPM, based on data from Appendix B.2 of AP 42 (Compilation of Air Emissions Factors) of the United States Environmental Protection Agency, was considered in order to determine the emissions of fine particulate matter generated by the crushing line. However, these data involve size distributions of less than 10 µm, while the ratio mentioned in section 3.6.1 of Report RS-6 refers instead to PM<sub>2.5</sub> and TPM.</p> <p>This ratio is also combined with a typical dust removal efficiency, in the case of untreated ore. However, this efficiency is not mentioned in Study RS-6.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Justify the approach adopted to estimate the size distribution of fine particulate matter generated by the crushing line.</li> <li>B) Describe in greater detail the typical combined dust removal efficiency that was selected (the type of collector and its efficiency).</li> </ul>
66	ECCC	10.1.2	Vol. 2 Sectoral study	<p><b>Air quality – Emissions of crystalline silica</b></p>	<p>The Proponent must confirm the waste rock blasting schedule, i.e. one day in five, one day in two or once a day.</p>

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			RS-6: Section 4.2.6 (p. 33)  Supplement to the EIS for the MELCC	According to the results of the atmospheric dispersion modelling of contaminants, the concentrations of metals and metalloids meet the standards and criteria of the Quebec's ministère de l'Environnement et de la Lutte contre les changements climatiques. However, despite the use of amphibolite as aggregate on the roads, values exceeding the standards are still observed for crystalline silica. Modelling a scenario with a reduction in blasting (one day in two) would make it possible to meet the standards for silica. According to the Proponent, "[translation] in reality, blasting only occurs one day in five".	
67	ECCC	10.1.2	Vol. 2 Sectoral study RS-6: Section 3.6.1 Appendix A: Tables A 1 and A 3  Supplement to the EIS for the MELCC (p. 12)  Supplement to the EIS for the CEEA (pp. 11 and 12; Appendix F; Appendix K)	<b>Air quality – Sources of emissions</b>  According to Tables A 1 and A 3 of Appendix A of Report RS-6, only the emissions resulting from the combustion of natural gas in dryers DEPO8 and DEPO12 were taken into account.  However, according to the sectoral study on greenhouse gases (Appendix K of the Supplement to the EIS of February 2019), natural gas consumption is 8,996,800 m <sup>3</sup> /year, as also indicated in Table 18.4 "LNG Consumption" of Technical Report NI 43 101 (November 29, 2017). This table indicates the natural gas consumption for the different equipment and buildings used during the operation phase.  If we refer to this list, it would appear that several sources related to the heating of buildings and facilities were not included in the air quality study (Report RS-6) and they account for approximately 40% of the annual consumption of liquefied natural gas. Appendix K of the Supplementary document also provides a list of stationary sources that use natural gas during the operation phase (section 2.5.2, p. 5).	The Proponent must:  A) Explain how the sources related to the heating of buildings and facilities were taken into account in the air quality study.  B) Where applicable, include the sources missing from the atmospheric dispersion modelling of contaminants.  C) If not, justify the approach used.
68	ECCC	10.1.2	Vol. 2 Sectoral study RS-6: Section 3.6.1  Supplement to the EIS for the MELCC – Second series of questions and comments (p. 73)	<b>Air quality – Emissions from the crushing line</b>  The levels of emissions of particulate matter from the sources of the crushing line (DEPO1, DEPO2 and DEPO4) were determined "[translation] based on the information provided by the <i>Critical Elements Corporation</i> " and this level was estimated at 20 mg/Rm <sup>3</sup> . These crushers are normally equipped with dust collectors and it would be more conservative to adopt a minimum emissions level equal to the upper limit prescribed in section 10 of the Quebec <i>Clean Air Regulation</i> (30 mg/Rm <sup>3</sup> ) in order to take into account the potential malfunction and wear and tear of the equipment, etc.  The Quebec's ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC) also raised this point and suggested using the provincial <i>Clean Air Regulation</i> standard. According to its response to the MELCC, the Proponent has agreed to take the necessary actions in order to meet this emission standard.	The Proponent must:  A) In the event that the Proponent must repeat the modelling: use a higher emission level for the crushers (DEPO1, DEPO2 and DEPO4) in order to take equipment wear and tear and potential malfunctions into account.  B) Describe what measures will be taken to ensure that the Proponent will meet the provincial <i>Clean Air Regulation</i> emission standard.

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69	ECCC	10.1.2	Vol. 2 Sectoral study RS-6: Section 3.6.7	<b>Air quality – Emissions from the generators</b>  During the construction phase, the electricity supply for the construction site would be provided through generators while waiting for the electrical transmission line to be built. The generators do not appear to have been included in the sources of atmospheric emissions during the construction phase.	The Proponent must:  A) Confirm or disprove if the emissions from the generators were taken into account during the construction phase and if not, justify the reason why they were excluded of the atmospheric emissions during this phase.  B) Where applicable, include these sources for the modelling of the construction scenario.  C) Explain the probability that the electrical transmission line may not be built before the operation phase and, where applicable, assess the effects on air quality if such a scenario proved probable.
70	ECCC	10.1.2	Vol. 2 Sectoral study RS-6: Appendix A: Tables A 4, A 6, A 7 to A 9	<b>Air quality – Emissions from blasting and drilling</b>  According to section 3.6.2 (Drilling and blasting, page 19 of the Environmental Impact Statement), the drilling and blasting activities were modelled using volume sources. In certain cases, it would appear that the initial values of sigmas Y and Z were obtained for surface emissions (Surface-based Release Height ~0). In addition, in Table A 9 (drilling and operation), it would appear that, for the same elevation, the release heights for the drilling equipment are different in the operation scenario.  The titles of tables A 6 and A 8 include “[translation] Emission levels – with mitigation (g/s)”. According to our understanding, there would be no mitigation for blasting.	The Proponent must:  A) In order to validate the input data of the atmospheric dispersion model for contaminants for the sigma Y, sigma Z and release height dimensions, provide the details of the calculations and estimates for these data, particularly for Tables A 7 and A 9 (drilling) and Tables A 6 and A 8 (blasting).  B) Explain why, in Table A 9, for the same elevation, the release heights for the drilling equipment are different in the operation scenario.  C) Explain the term “with mitigation” in the title of tables A 6 and A 8.
71	ECCC	10.1.2	Vol. 2 Sectoral study RS-6: Section 2.4.3; Appendix A: Table A 4 and Table A 5 Section 2.4.4	<b>Air quality – Emissions from blasting</b>  According to section 2.4.3 of the Environmental Impact Statement, “[translation] one blast per day at 5:00 pm was modelled”. The same statement is repeated in section 2.4.4. However, according to tables A 4 and A 5, the emission levels were calculated for one blast every five days.	The Proponent must provide more details with respect of the frequency of blasting and correct the emission levels, where applicable.
72	ECCC	10.1.2	Supplement to the EIS for the CEEA: Appendix K: Sections 2.5; 2.5.1 (p. 5); 3.6 (p. 9)	<b>Air quality – Greenhouse gas emissions from machinery in the closure phase</b>  According to section 2.5 of Appendix K: “[translation] In the absence of a definitive scenario for the use of machinery during the closure phase, the greenhouse gas emissions from machinery for this phase were estimated to be equivalent in intensity to those of the construction phase. Only the duration of the two phases differs: 18 months for construction and 6 months for closure.” It would appear that no vehicles or machinery will be used after the dismantling of the works on the	The Proponent must provide more details about the approach adopted for the closure phase and justify its assumption that the machinery will be used only for a six-month period out of the two years anticipated for the closure process.

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				site, and yet, according to section 3.6, “[translation] a two-year period is assumed for the closure phase”.	
73	ECCC	10.1.2	Supplement to the EIS for the CEAA: Appendices K and B  Supplement to the EIS for the MELCC	<p><b>Air quality – Greenhouse gas emissions from the transport of workers</b></p> <p>In the examples of calculations provided in Appendix B of the technical note on greenhouse gases (GHGs; Appendix K), the distance used for the calculation of greenhouse gas emissions for the transport of workers from the camp to the site is 20 km (“Camp to site 20 km one way”).</p> <p>However, on page 7 of the Supplement to the Environmental Impact Statement for the Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques, it is indicated that the first option for worker housing is the commercial camp, located more than 25 km north of the mining complex. The second option would be to house the workers at a camp owned by Proponent which would be located approximately 3 km south of the mining site.</p>	<p>The Proponent must:</p> <p>A) Justify the use of a distance of 20 km (one-way distance) for the calculation of the GHG emissions generated by the transport of workers from the camp to the mine site.</p> <p>B) Where applicable, correct this value and revise the estimate of the GHG emissions generated by this transport of the workers. The Proponent can choose to estimate the GHG emissions from the transport for each of the options considered.</p>
74	ECCC	10.1.2	Supplement to the EIS for the CEAA: Appendix K (Section 3.1, Table 4, p. 7 Section 3.7, Table 10)	<p><b>Air quality – Greenhouse gas emissions from machinery</b></p> <p>Concerning the greenhouse gas emissions from machinery, in Table 4 of Appendix K, the totals on the last line correspond to the “[translation] total emissions over 19 years of operation, construction and closure”. However, it appears that the annual emission values during the operation phase (second line of the table) were not multiplied by 19 years in the totals on the last line. According to our understanding, the value of 47,061 t CO<sub>2</sub>eq should be multiplied by 19 before being added to the total on the last line.</p> <p>In addition, please note that the total of the stationary sources and explosives in Table 10 (17,943 t CO<sub>2</sub>eq) is different from the value indicated in the text on page 10 (17,846 t CO<sub>2</sub>eq).</p>	<p>The Proponent must:</p> <p>A) Explain and, if necessary, justify the values provided for the total emissions over 19 years of operation, construction and closure.</p> <p>B) Correct the totals obtained in Table 4, where applicable.</p> <p>C) Provide the correct total of greenhouse gases emissions for the stationary sources and explosives.</p>
75	HC	9.1	Vol. 1 p. 6-120 p. 6-164 p. 13-6	<p><b>Air quality – Mitigation measures (idling)</b></p> <p>On the subject of idling, the Proponent indicates: “[translation] To reduce fuel consumption, the elimination of idling and the use of engine heaters will be considered” (p. 6-164; 13-6); and “[translation] All electrical or mechanical equipment not being used must be turned off, including trucks waiting more than five minutes for loading” (p. 6-120).</p>	<p>The Proponent must confirm if the mitigation measure aimed at eliminating idling will be implemented or only “considered”, and in the latter case, justify this decision.</p>
76	HC	11.4	Vol. 1 p. 14-9	<p><b>Air quality – Monitoring of fine particulate matter</b></p> <p>Only the monitoring of total particulate matter in the air appears to be planned in the EIS (p.14-9). However, the monitoring of fine particulate matter (PM<sub>2.5</sub>) is very important for the protection of health and verification of the effectiveness of the mitigation measures. In addition, even if the project is located in an environment</p>	<p>The Proponent must explain the reasons why the fine particulate matter (PM<sub>2.5</sub>) have been excluded from the monitoring program. If required, add the monitoring of fine particulate matter (PM<sub>2.5</sub>) to its air quality monitoring program.</p>



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				where the air quality is good, protection of the air quality of unpolluted areas is important ( <a href="http://airquality-qualitedelair.ccme.ca/">http://airquality-qualitedelair.ccme.ca/</a> ).	
77	HC	10.1.3	Vol. 1 p. 6-99	<p><b>Air quality – Requirements for noise limits during the construction phase</b></p> <p>Concerning the noise limit requirements that must be met during the construction phase, the Proponent indicates that “[translation] Since the operations of the mining project will include a construction phase, these guidelines of the Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques* could also be applicable”. (p. 6-99)</p> <p>* <i>Lignes directrices relativement aux niveaux sonores provenant d’un chantier de construction industriel [Guidelines on noise levels from industrial construction sites]</i></p>	The Proponent must confirm if it plans to apply to the project the requirements set out in the <i>Lignes directrices relativement aux niveaux sonores provenant d’un chantier de construction industriel</i> . Health Canada recommends that these guidelines be taken into account.
78	HC	9.1	Vol. 1 p. 6-120 p. 13-5	<p><b>Air quality – Noise mitigation</b></p> <p>Concerning the mitigation measures related to noise impacts, the Proponent indicates: “[translation] In order to further minimize noise on the mine site, the following specific mitigation measurements are recommended:</p> <ul style="list-style-type: none"> <li>- All equipment and vehicles normally kept on the construction sites, excluding transiting vehicles (e.g. 10-wheel bulk transport trucks) and equipment used for short periods, will be equipped with a white noise back-up alarm. [...]</li> <li>- All unused electrical or mechanical equipment must be turned off, including trucks waiting more than five minutes for loading.</li> <li>- The use of engine brakes must be prohibited within the construction site area.” (p. 6-120)</li> </ul> <p>The Proponent also indicates: “[translation] All unused electrical or mechanical equipment must be turned off, including trucks waiting more than five minutes for loading”. (p. 13-5)</p>	The Proponent must confirm if it plans to implement the noise mitigation measures that it indicates as being “recommended” (e.g., white noise back-up alarm, trucks turned off if waiting for more than five minutes, use of engine brakes prohibited).
79	HC	11.4	Vol. 1 p. 6-121 p. 13-4	<p><b>Air quality – Noise monitoring</b></p> <p>The Proponent indicates that no noise monitoring program is necessary since area users are only very rarely present around the project area (p. 6-121). During consultation leaded by the Agency, the community of Nemaska has raised concern about noise level of the mine.</p> <p>Health Canada is of the opinion that monitoring of the acoustic environment, particularly through the establishment of a system for receiving and handling complaints, would be important to confirm that the acoustic environment do not affect territory users.</p>	The Proponent must re-evaluate its decision not to conduct a noise monitoring program and assess the establishment of a system for receiving and handling noise-related complaints (through the discussion and consultation committee, for example). Justify the decision not to conduct a noise monitoring program.



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<b>Wetlands</b>					
80	ECCC	9.1.2	Vol. 1 Section 7.1	<p><b>Wetlands – Effects of the project and estimated losses of wetlands</b></p> <p>Section 7.1: Vegetation and wetlands of the Environmental Impact Statement deals with losses of wetland areas (173.55 ha) and of the associated ecological value. However, the functions associated with wetlands that will be lost following the work were not presented.</p> <p>The wetlands likely to be affected by project activities must be described according to their location, size, type, taxonomic composition and ecological function (Canadian Wetland Classification System, National Wetlands Working Group, 1997).</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Describe all the wetlands likely to be affected by implementation of the project as well as their functions.</li> <li>B) Assess the effects of the project on wetlands and their functions, particularly the function of habitat for wildlife species at risk and migratory birds.</li> <li>C) Present an estimate of the losses by wetland type.</li> </ul>
81	ECCC	9.1.2	Vol. 1 Sections 7.1 and 7.1.6	<p><b>Wetlands – Compensation project</b></p> <p>The Environmental Impact Statement indicates that “[translation] Out of concern for the protection of vegetation and wetlands [...] a compensation project for project-related wetland losses will be developed and presented to Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques and Environment and Climate Change Canada” (p. 7-26).</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Indicate whether a project to compensate for wetland losses is still required. If so, specify the type of compensation project that will be carried out and the objectives of this project.</li> <li>B) Where applicable, provide a general outline of the compensation program and specify the function or functions that will be compensated.</li> </ul>
82	ECCC	9.1.2	Vol. 1 Sections 7.1, 7.1.7 and 10	<p><b>Wetlands – Mitigation measures and cumulative effects</b></p> <p>The Environmental Impact Statement (EIS) indicates that “[translation] The ecosystem value of the wetlands affected by the project is considered significant since these environments constitute important ecosystems for many plant and animal species and since they perform multiple functions (filtering, retention of flood waters, etc.). [...] The magnitude of the effects on wetlands is considered high and significant for the facilities [...]. The residual effects on wetlands are therefore considered high and significant.” (p. 7-27 and 7-28)</p> <p>However, the mitigation measures that would make it possible to reduce the effects of losses of wetland functions are not presented.</p> <p>In addition, wetlands are included in Table 5.2 (valued components [VCs]). However, wetlands are not mentioned in section 10.4 of the EIS. This section states that “[translation] Certain VCs of the project will not experience any cumulative effects, since they do not interact with other activities or projects, either in space or time, or because the residual effects of the project on these components are low or very low.”</p> <p>Since the Proponent anticipates that there will be residual effects on wetlands after</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Identify the mitigation measures that will be implemented to reduce the effects of losses of wetland functions, particularly the function of habitat for migratory birds at risk and other species at risk.</li> <li>B) Assess the cumulative effects of the project on the various wetland functions, particularly on the function of habitat for wildlife species and species at risk. If the Proponent decides not to include wetlands in the analysis of cumulative effects, it must justify this decision by providing supporting reasons according to the Agency’s “Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012: Interim Technical Guidance” (<a href="https://www.canada.ca/en/environmental-assessment-agency/services/policy-guidance/assessing-cumulative-environmental-effects-ceaa2012.html">https://www.canada.ca/en/environmental-assessment-agency/services/policy-guidance/assessing-cumulative-environmental-effects-ceaa2012.html</a>).</li> </ul>

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				application of the mitigation measures, and since wetlands are presented as a valued component of the environment, an assessment of the cumulative effects on wetlands is required, as stipulated in the Agency's "Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012: Interim Technical Guidance" ( <a href="https://www.canada.ca/en/environmental-assessment-agency/services/policy-guidance/assessing-cumulative-environmental-effects-ceaa2012.html">https://www.canada.ca/en/environmental-assessment-agency/services/policy-guidance/assessing-cumulative-environmental-effects-ceaa2012.html</a> ).	
<b>Aquatic wildlife</b>					
83	DFO		Vol. 1 Section 7.2.8: Monitoring and follow-up program  Supplement to the EIS for the CEAA	<p><b>Aquatic wildlife – Water flows</b></p> <p>The effects of the project on water bodies and watercourses were assessed using hydrological modelling. Map 1 (Supplement to the Environmental Impact Statement (EIS) for the CEAA of February 2019) shows the locations of the various points used to calculate flows in the watercourses located around the periphery of the mining site. Although the project's effects on the hydrological regime of these watercourses were modelled, uncertainties remain.</p> <p>Generally, the projected hydrological conditions demonstrate that the flows of the watercourses in the study area will be reduced owing to the footprint of the project and the dewatering of the pit. However, the scenario that provides for three discharge points (lakes 4 and 6 and Watercourse A) should limit the intensity of these variations in flows once the dewatering wells are in operation.</p> <p>Nonetheless, at the end of the operation of the mine, the discharge of water into lakes 4 and 6 will cease; the water levels and flows will once again be reduced and the discharge of water through the final effluent will be reduced.</p> <p>The Proponent plans, in section 14.3.1 of the EIS, to do the monitoring of watercourses that would show a 10% flow reduction to validate indirect effects of the project and to check if these flow reductions affect their productivity.</p>	<p>The Proponent must:</p> <p>A) Plan, in the monitoring of watercourse flows, these calculation points: A1, C1, M1, N1, C4, F2, D and E, identified on Map 1 (Supplement to the EIS for the CEAA of February 2019) for the entire duration of construction phase and operation phase of the mine in order to confirm the flows modelled and the anticipated effects.</p> <p>B) Develop, for the purposes of this monitoring, which should begin with excavation of the pit, a protocol that will set out the frequency of the surveys at the above-mentioned calculation points as well as the format of presentation of these results.</p>
<b>Migratory birds</b>					
84	ECCC	9.1.2	Vol. 1 Sections 7.1 and 7.4  Vol. 2 RS-7 RS-10	<p><b>Migratory birds – Impacts of losses of wetlands and their functions</b></p> <p>Section 7.4 of the Environmental Impact Statement presents the impacts of losses of habitat areas on migratory birds and bird species at risk.</p> <p>However, wetlands were not considered a distinct type of habitat, although according to a note at the bottom of Table 3 (RS-10, p. 14), certain types of wetlands appear to have been included in one of the habitat types.</p>	<p>The Proponent must describe the effects of losses of wetlands and their functions on migratory birds at risk and other species at risk.</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
				It is therefore difficult to accurately assess the effects of the loss of wetland functions on migratory birds and bird species at risk.	
85	ECCC		Vol. 1 Section 7.4	<p><b>Migratory birds – Mitigation and follow-up measures</b></p> <p>In the Environmental Impact Statement, the Proponent points out that “[translation] [...] insofar as possible, tree-clearing work will be carried out outside the bird nesting period”. (p. 7-98)</p> <p>The Proponent also states that “[translation] Insofar as possible, areas will be cleared outside the nesting period of the main species present at this latitude, i.e. between May 30 and August 15. The purpose of this measure is to prevent the destruction of nests.” (p. 7-123)</p> <p>In addition, the Proponent indicates that “[Translation] No specific monitoring and follow-up program is proposed for this component. Insofar as possible, tree clearing will be carried out outside the nesting period. In the event that tree clearing proves necessary during the nesting period, a specific request for authorization will be submitted to the relevant authorities and specific mitigation measures will be proposed, such as a bird survey and the protection of areas where the presence of nests and/or nestlings is confirmed. [...]” (p. 7-125).</p> <p>Expressions such as “insofar as possible” remain somewhat evasive and do not make it possible to determine the actual effectiveness of the proposed mitigation measures in reducing the project’s effects, especially when reference is made to protecting the nesting of migratory birds. These measures must be explicit, attainable, measurable and verifiable, and be described in a manner that avoids any ambiguity concerning the intent, interpretation and implementation of these measures (ref. <i>Migratory Birds Regulations</i>).</p>	<p>The Proponent must specify the avoidance, mitigation and/or environmental monitoring measures that will be implemented in order to prevent and minimize adverse effects on migratory birds and species at risk, particularly during site development work, such as tree clearing.</p> <p>The Avoidance Guidelines could be useful for this purpose. (Ref.: <a href="https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/guidelines.html">https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/guidelines.html</a>)</p>
86	ECCC	9.1.2	Vol. 1 Section 7.4  Vol. 2 RS-10	<p><b>Migratory birds – Maps of potential habitats</b></p> <p>Section 7.4 of the EIS (2018) presents five maps of the distribution of potential habitats for five species at risk (Maps 7-7 to 7-11) on which the sightings of these species are superimposed.</p> <p>We note that, for each map, the species sightings are located at the same listening stations. For example, on the December 2017 version of Map 7-8: Short-eared owl, six records/sightings are illustrated, while the species was sighted only once (see Map 7-8, May 2017 version).</p>	<p>The Proponent must correct the maps of potential habitat for bird species at risk by indicating, for each listening station, the number of records/sightings for each species.</p>
87	ECCC	9.1.2	Vol. 1 Sections 7.4, 10.5.1, 10.7	<p><b>Migratory birds – Risks of contamination</b></p> <p>No adverse effects on migratory birds were associated with the potential presence of deleterious substances on the mining site, particularly in the tailings ponds, waste rock piles, basins, etc.</p>	<p>The Proponent must:</p> <p>A) Assess the effects of the use of tailings ponds, waste rock piles and basins by migratory birds.</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
				The mining activities are likely to release deleterious substances which will be accumulated and stored on the mine site, particularly in the tailings ponds, waste rock piles and basins, structures likely to be used by birds.	<p>B) Identify the risks of contamination for migratory birds that may use these infrastructures.</p> <p>C) Present and discuss the monitoring and mitigation measures that must be instituted in order to reduce the risks of contamination for migratory birds.</p>
88	ECCC	9.1.2	Vol. 1 Sections 7.4, 10.5.1 and 10.7	<p><b>Migratory birds – Effects on nesting</b></p> <p>The bank swallow and the common nighthawk are two migratory bird species included on the list of species at risk (see Schedule 1 of the <i>Species at Risk Act</i>) and that are present in the study area. The common nighthawk likes bare areas, while the swallow looks for mounds or embankments where it can dig its nest.</p> <p>During the construction, operation and even closure phases, the various activities on the site may either destroy or create environments conducive to the nesting of these two species as well as other bird species. The impacts of the mining activities likely to modify the environments and to affect the nesting of birds should be assessed, for all phases of the project. Measures should be identified and implemented in order to protect the nesting of birds during the various phases of the project.</p>	<p>The Proponent must:</p> <p>A) Assess the effects of the project on the nesting of migratory bird at risk species, particularly the bank swallow and the common nighthawk, during the construction, operation and closure phases. For this assessment, consider the changes to the environment caused by the various activities on the mining site which could result in the creation of suitable habitat for these species.</p> <p>B) Describe the monitoring and mitigation measures that will be implemented in order to reduce the effects of the project on the nesting of bird species, particularly during the operation phase.</p>
89	ECCC	9.1.2	Vol. 1 Sections 7.4 and 7.6	<p><b>Migratory birds – Noise caused by blasting</b></p> <p>The effects of noise on migratory birds and species at risk are presented in sections 7.4.5 (p. 7-97), 7.6.5 (p. 7-152) and 7.7.5 (p. 7-181) of the Environmental Impact Statement.</p> <p>However, the noise and vibrations caused by blasting activities do not appear to have been considered in the description of the project's effects on bird fauna as well as on species at risk during the operation phase.</p> <p>The noises caused by blasting activities are unexpected and sudden, and can cause behavioural effects on or reactions by wildlife, reactions that are generally different from those caused by constant noises.</p>	<p>The Proponent must:</p> <p>A) Assess the effects of blasting activities on migratory birds and on species at risk.</p> <p>B) Describe the measures that will be implemented to mitigate the effects of disturbances and particularly of blasting on migratory birds and species at risk.</p>
90	ECCC	9.1.2	Vol. 1 Sections 7.4.8, 7.6.8 and 7.7.8	<p><b>Migratory birds – Monitoring and follow-up programs</b></p> <p>No environmental monitoring or follow-up program was proposed either for migratory birds or for species at risk (subsections 7.4, 7.6.8, and 7.7.8).</p> <p>Considering that migratory birds, species at risk as well as their habitats are valued environmental components of the project, and since the residual effects on these components are considered non-zero, specific monitoring and follow-up programs should be developed and implemented for the various species or groups of species present in or likely to use the area.</p>	<p>The Proponent must present and detail the monitoring and follow-up programs that will be implemented during all project phases for migratory birds and for each of the species at risk present in or likely to use the study area.</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
				The various monitoring and follow-up programs should take into account the elements of the recovery strategies (when available) for each species at risk.	
<b>Woodland and migratory caribou</b>					
91	ECCC	9.1.2	Vol. 1 Section 7.6 Map 7-14	<p><b>Caribou – Disturbance of habitat by fires</b></p> <p>It is indicated on page 7-145 of the EIS that the main source of disturbance of caribou habitat is of natural origin and is associated with the major fires that have affected the study area in the last 50 years.</p> <p>Map 7-14 (p. 7-147) illustrates, for the study area, the habitat that has been disturbed by fires in the last 50 years as well as by human activities.</p> <p>However, according to the Recovery Strategy for the Woodland Caribou, Boreal population (<a href="https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/recovery-strategies/woodland-caribou-boreal-population-2012.html">https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/recovery-strategies/woodland-caribou-boreal-population-2012.html</a>), disturbed habitat is defined as: “habitat showing anthropogenic disturbance visible on Landsat at a scale of 1:50,000, including habitat within a 500 m buffer of the anthropogenic disturbance; and/or fire disturbance in the last 40 years, as identified in data from each provincial and territorial jurisdiction (without buffer).”</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Review the description of the disturbed habitats present in the study area considering only fires within the last 40 years.</li> <li>B) Review the map showing the anthropogenic and natural disturbances, and include fires that occurred more than 40 years ago in the class of undisturbed habitat.</li> <li>C) Review the analysis of the project's effects on caribou habitat, if necessary.</li> <li>D) Review the analysis of the cumulative effects, if necessary.</li> </ul>
92	ECCC	9.1.2	Vol. 1 Section 10.7	<p><b>Caribou – Cumulative effects</b></p> <p>In section 10.7.1 of the Environmental Impact Statement, the Proponent presents the cumulative effects on caribou habitat without taking into account the habitats that have the biophysical attributes required by the caribou to carry out its life processes, as described in Appendix H of the Recovery Strategy for the Woodland Caribou (<i>Rangifertarandus caribou</i>), Boreal population, in Canada.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Describe the consequences of the cumulative effects on the population and distribution objectives identified in the Recovery Strategy for the Woodland Caribou, which are as follows: <ul style="list-style-type: none"> <li>- Maintain the numbers of the local population;</li> <li>- Maintain the habitat condition in terms of area and types of undisturbed habitats, to ensure that the local woodland caribou population is self-sustaining. This is a minimum of 65% undisturbed habitat as well as the availability of the biophysical attributes required by the woodland caribou.</li> </ul> </li> <li>B) Present an analysis of the cumulative effects on woodland caribou, taking into consideration the habitats required by woodland caribou.</li> </ul>
93	ECCC	9.1.2	Vol. 1 Section 7.6 Map 7-14	<p><b>Caribou – Overview of use of the study area based on data from radio collars</b></p> <p>On page 7-151 of the Environmental Impact Statement, the Proponent uses data collected by the ministère des Forêts, de la Faune et des Parcs [Quebec Department of Forests, Wildlife and Parks] (MFFP) by means of radio-tracking collars to draw up the overview of the use of the study area by the boreal caribou. Given the lack of information on the context in which these data were collected, it</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Provide the information necessary to understand the purpose for which the radio-tracking data on caribou were collected.</li> <li>B) Explain the goal and objectives of these studies on caribou using radio tracking data, the methodology used, the choice of the individuals tracked,</li> </ul>

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				<p>is difficult to assess their value.</p> <p>According to the comments of the Cree Nation Government, radio-tracking data constitutes partial data since only a small number of individuals of the caribou herd are fitted with radio-tracking collars.</p>	<p>the sex of the animals tracked, the percentage of individuals tracked, the limitations of the study, etc. or indicate clearly where this information can be obtained.</p> <p>C) Review the description of the use of the study area by caribou as well as the project's effects on caribou, considering the bias associated with the use of radio-tracking data.</p>
94	ECCC	9.1.2	Vol. 1 Section 7.6	<p><b>Caribou – Effects</b></p> <p>In the EIS, the Proponent indicates that habitat loss and alteration, noise and light disturbances, as well as the risks of collision with vehicles are the potential effects on boreal caribou for each phase of the project.</p> <p>However, the project is likely to cause other effects, including, for example, noise and vibrations caused by blasting activities, loss of connectivity within the study area or in the QC-6 range, or increased facility of movement of predators. All the adverse effects of a project on caribou should be determined and be consistent with the recovery strategy.</p> <p>In order to be consistent with the Recovery Strategy for the Woodland Caribou, Boreal population, the description of the anticipated effects should, as a minimum, consider the effects on individuals (e.g. mortality, predation), on the maintenance of connectivity and on undisturbed habitat located within the 500-m buffer zone as well as their combined effects on the recovery objectives for the woodland caribou, boreal population.</p> <p>In section 7.6.8 (p. 7-176), it is indicated that the project will have no effects on caribou, despite the habitat loss caused by the implementation of the project.</p> <p>Consequently, no monitoring and follow-up program are proposed.</p>	<p>The Proponent must:</p> <p>A) Review the identification and description of the direct and indirect effects of the project on woodland caribou (i.e. individuals) as well as on the various types of habitat used by taking account all project activities including blasting activities.</p> <p>B) Describe and explain the effects of direct losses for each type of habitat by presenting the biophysical attributes required by the caribou to carry out its life processes.</p> <p>C) Identify and describe all the possible measures to minimize the project's adverse effects on the woodland caribou, boreal population, and its habitat; all adverse effects must be considered (not only significant effects). The mitigation measures must be compatible with the recovery strategy for the species.</p> <p>D) Update the analysis of the project's residual effects on woodland caribou.</p> <p>E) Describe the consequences of the residual effects on the population and distribution objectives identified in the Recovery Strategy for the Woodland Caribou (Environment and Climate Change Canada, 2012), which are as follows:</p> <ul style="list-style-type: none"> <li>- Maintain the numbers of the local population;</li> <li>- Maintain the habitat condition in terms of area and types of undisturbed habitats, to ensure that the local woodland caribou population is self-sustaining. This is a minimum of 65% undisturbed habitat as well as the availability of the biophysical attributes required by the woodland caribou.</li> </ul> <p>F) Taking into account the update of the project's potential effects on boreal caribou, assess and discuss the relevance of implementing a monitoring program.</p>



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95	ECCC	9.1.2	Vol. 1 Section 7.6	<p><b>Caribou – Non-restored areas</b></p> <p>On page 7-176 of the EIS, it is indicated that restoration work will be carried out in the closure phase and that priority will be given to planting coniferous tree species.</p>	<p>The Proponent must:</p> <p>A) Assess the areas that cannot be restored in the closure phase (pit, roads, etc.).</p> <p>B) Indicate whether monitoring of restoration activities will be carried out. If so, describe the monitoring program.</p>
<b>Species at risk – General</b>					
96	ECCC	9.1.2 12.1.2	Vol. 1 Section 10.4	<p><b>Species at risk – Assessment of effects</b></p> <p>The assessment of the environmental effects of the various project phases on species at risk (species listed under Schedule 1 of the <i>Species at Risk Act</i> [SARA] and assessed by the Committee on the Status of Endangered Wildlife in Canada [COSEWIC]) is brief or incomplete for certain species such as the wolverine and the caribou, eastern migratory population.</p> <p>The assessment of the project's environmental effects as well as the cumulative effects should include all the species at risk likely to use the study area (past, present, future), including the wolverine. We also recommend including in the assessment of the cumulative environmental effects the species that have been assessed by COSEWIC, but that are not yet listed in Schedule 1 of SARA, particularly the caribou, eastern migratory population.</p>	<p>The Proponent must:</p> <p>A) Assess the project's environmental effects and the cumulative effects for all the species at risk likely to use the study area, including the wolverine.</p> <p>B) Assess the project's environmental effects and the cumulative effects for the species assessed by COSEWIC that are not yet listed in Schedule 1 of SARA and that are likely to use the study area, particularly the caribou, eastern migratory population.</p> <p>C) Describe the consequences of the cumulative effects on the population and distribution objectives identified in the recovery strategies when available.</p>
<b>Cumulative effects</b>					
97	CEAA	13	Vol. 1 Sections 10 and 10.2.7	<p><b>Cumulative effects – Assessment of the significance of cumulative effects based on criteria</b></p> <p>On page 10-4 of the Environmental Impact Statement (EIS), the Proponent indicates that “[translation] the cumulative effects can be assessed in terms of intensity, duration and magnitude. Applying these criteria then makes it possible to qualify the cumulative effects of a project as significant, nonsignificant or unknown.” However, the Proponent does not refer to the definitions of these criteria or indicate whether the definitions provided in section 5 of the EIS are adopted, particularly <i>intensity</i>, which considers several sub-criteria.</p> <p>In addition, the criteria and the potential sub-criteria are not systematically described and justified for each assessment of the significance of cumulative effects. For example, in section 10.7.2.4 of the EIS (p. 10-35, Cumulative effects on migratory birds), the Proponent indicates: “[translation] The cumulative effects of this project on migratory forest birds are of low intensity, limited extent, long duration and low probability of occurrence. Hence, the significance of the</p>	<p>The Proponent must:</p> <p>A) Define the criteria for the assessment of cumulative effects, specifically magnitude, geographic extent and duration, and the sub-criteria where applicable (ecological and social contexts, frequency, reversibility, environmental standards, guidelines and objectives).</p> <p>B) Describe and justify the use of these criteria and sub-criteria, where applicable, for the assessment of the cumulative effects on each of the valued components (VCs) for the project. This description and justification must be provided for the examples given, as well as for all the VCs. The examples provided are not exhaustive.</p> <p>C) In cases where sub-criteria are used in the assessment of cumulative effects, ensure that when sub-criteria do not apply to a component, this is clearly indicated, in order to show that this is not an oversight and that the</p>

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				cumulative effects is considered very low.” Although general explanations of these terms are provided, it is not possible to establish a link with the criteria mentioned.	Proponent’s criterion does not take this/these element(s) into account. For example, the ecological context may not apply to all the VCs.
98	CEAA		Vol. 1 Section 10.4	<p><b>Cumulative effects – Water and air quality, and acoustic environment</b></p> <p>In the section of the Environmental Impact Statement on the determination of the valued components (VCs) for the analysis of the cumulative effects (p. 10-6), the Proponent states: “[translation] Only the VCs of the biological and human environments were considered for the analysis of cumulative effects. The components of the physical environment, such as water and air quality, the acoustic and light environment, which gave rise to concerns on the part of Cree communities, are considered generally as part of the analysis of the cumulative effects on the ‘Cree communities of Eastmain and Nemaska’ component.”</p> <p>The only reference to these VCs in the analysis of cumulative effects is in section 10 - Cumulative effects (p. 10-55): “[translation] Although individually, the Rose mining project and the other projects in the area may together cause low residual effects on the ‘current use of lands and resources for traditional purposes’ VC, in every case, they cause changes in sections of traplines (increase in traffic, sound and light disturbances, changes in air and water quality, pressure on the resource, avoidance of the area and loss of land) which, on a cumulative basis can cause long-term disturbance of Cree activities. However, although the projects mentioned will change how activities will be carried out in the area, they will not prevent these activities from being carried on.”</p>	The Proponent must provide more details about how the components of the physical environment, such as water and air quality and the acoustic environment, were considered in the analysis of the cumulative effects on the “Cree communities of Eastmain and Nemaska” component.
99	SVP-10	5.7	Vol. 1 Sections 6.4 and 10.7.6.2	<p><b>Cumulative effects – Release of mercury from the creation of the Eastmain reservoir</b></p> <p>According to the Société pour Vaincre la Pollution (SVP), mercury deposited and accumulated in the soil of the boreal forest is converted to methylmercury following the flooding of the area during the creation of a hydroelectric reservoir. The methylmercury in the water would then be bioaccumulated in fish. According to the SVP, the area flooded by the Eastmain 1 reservoir is currently releasing mercury from the soil.</p> <p>Also, as mentioned by the Proponent in section 10.7.6.2 of its Environmental Impact Statement (p. 10-51), “[Translation] the discovery of high mercury levels in fish flesh, owing to industrial pollution to the south of James Bay and the impoundment of reservoirs further north, has prompted the Cree to change their fish harvesting and consumption strategies”.</p>	The Proponent must assess the cumulative effects of the mining operations (e.g. reworking of the soil; and of the other projects identified for the assessment of the cumulative effects) on mercury levels in and around the Eastmain reservoir. The Proponent must take this assessment into account in the section on cumulative effects on Indigenous communities (human health).

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<b>Accidents and malfunctions</b>					
100	ECCC	5.7	Vol. 1 Section 6.4.5, p.6-67- 6-68 and section 5.2.2 Table 5-6, p.5- 19	<p><b>Accidents and malfunctions – Accidental spillage of petroleum products</b></p> <p>The mitigation measures for hydrocarbons proposed in Table 5-6 are mainly regulatory requirements (provincial regulations for petroleum equipment). Mitigation measure H7 includes the equipment to be used and the procedures to be performed in the event of an accidental spill of petroleum products. However, it is not indicated whether preventive measures will also be put in place by the Proponent for the transfer of petroleum products, such as the use of berms that deploy when petroleum products are delivered, thereby containing potential spills and avoiding contamination of soil, surface water and groundwater.</p> <p>Environment and Climate Change Canada states that the use of physical barriers when transferring petroleum products, coupled with procedures, are preventive measures that could contain possible spills during product transfer thereby avoiding contamination of soil, surface water and groundwater.</p>	<p>The Proponent must:</p> <p>A) Describe the preventive measures that will be implemented to avoid any contamination of surface water, soil and groundwater by spills that may occur when refilling petroleum equipment.</p> <p>B) Add to Table 5-6 the appropriate measures mentioned on pages 11-19 and 11-20 of the Environmental Impact Statement (EIS), for example: designing the transfer sites according to good industrial practices.</p> <p>C) Provide details about whether, in addition to implementing procedures, the transfer site will include physical barriers.</p>
101	CEAA	7.1.2	Vol. 1 Section 11.2.5.3	<p><b>Accidents and malfunctions – Probability of occurrence of a spill of petroleum products</b></p> <p>On page 11-20 of the EIS, the Proponent indicates: “[translation] The history of incidents that have occurred at similar sites shows that a spill of petroleum products can occur during the lifetime of the mine. The probability is therefore considered medium.”</p> <p>According to the definition of medium probability, a spill of petroleum products could “[translation] occur once during the operational lifetime of the facility”, while according to the definition of high probability, such an incident “can occur several times during the operational lifetime of the facility”.</p>	<p>The Proponent must provide reasons to justify why the probability of a spill of petroleum products is considered medium.</p>
102	CEAA	7.1.2	Vol. 1 Section 11.2.5.9	<p><b>Accidents and malfunctions – Measures to prevent the risks associated with the accumulation of tailings and waste rock</b></p> <p>In section 11.2.5.9 of the Environmental Impact Statement, the Proponent identifies two measures to prevent the risks associated with the accumulation of tailings and waste rock (slope instability), namely:</p> <ul style="list-style-type: none"> <li>- conducting hydrogeological and geotechnical studies; and,</li> <li>- conducting an analysis of slope stability.</li> </ul> <p>However, these statements do not indicate how these measures will prevent the possible risks.</p>	<p>The Proponent must:</p> <p>A) Explain how conducting hydrogeological and geotechnical studies will make it possible to prevent the risks associated with the accumulation of tailings and waste rock, and indicate when and at what frequency these studies will be conducted.</p> <p>B) Specify how conducting an analysis of slope stability will prevent the risks associated with the accumulation of tailings and waste rock, and indicate when and at what frequency this analysis will be conducted.</p>

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103	CEAA	7.1.2	Vol. 1 Sections 11.2.5.10 and 11.3	<p><b>Accidents and malfunctions – Risks of accidents on the road network</b></p> <p>In section 11.2.5.10 of the EIS, the Proponent identifies accidents involving hazardous materials and ore trucks on the road network as a possible risk. In terms of prevention measures, the Proponent specifically proposes “[translation] maintaining an updated emergency response plan, including a response procedure in the event of a spill on the road network”.</p> <p>The emergency response plan (section 11.3 of the EIS) presents a “[translation] procedure in the event of motor vehicle accidents”. However, it is specified that “[translation] this procedure applies to traffic accidents that occur on Critical Elements Corporation property and is not applicable to accidents that occur on public roads”.</p>	<p>The Proponent must:</p> <p>A) Explain whether and how it plans to respond in the event of accidents involving hazardous materials on the public road network, particularly the Eastmain-1 road.</p> <p>B) If it plans to respond in the event of an accident on the public road network, present a procedure in the event of traffic accidents applicable to accidents occurring on public roads and ensure the applicability of this procedure with the authorities concerned.</p>
104	CEAA	7.1.2	Vol. 1 Section 11.2.5.11	<p><b>Accidents and malfunctions – Measures to prevent the risks associated with forest fires</b></p> <p>In section 11.2.5.11 of the Environmental Impact Statement, the Proponent identifies measures to prevent the risks associated with forest fires, specifically: “SOPFEU.”</p> <p>However, this statement does not indicate how this measure will prevent the possible risks.</p>	<p>The Proponent must explain what the “SOPFEU” measure involves and how it will make it possible to prevent the risks associated with forest fires.</p>
105	CEAA	7.1.2	Vol. 1 Section 11.2.5.11	<p><b>Accidents and malfunctions – Risk level associated with a forest fire</b></p> <p>On page 11-34 of the Environmental Impact Statement (EIS) (section 11.2.5.11), the Proponent indicates that a forest fire threatening the facilities could occur during the lifetime of the mine and the probability of occurrence is considered medium. According to the definition provided on p. 11-3, a medium probability is described as follows: “[Translation] can occur once during the operational lifetime of the facility”.</p> <p>According to section 12.3 of the EIS, “[Translation] there were between one and eight fires a year affecting an area within a 50-km radius around the site” and “in the majority of cases, lightning was the primary cause of these fires”. It adds: “forecasts show that, by the year 2100, climate change is expected to worsen the conditions conducive to forest fires, increasing the number of fires as well as their severity. Consequently, the risk of forest fires in the study area is significant.” Table QC-85-4, presented in the document providing the response to the questions from Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques (2019), also concludes that the risk is significant.</p>	<p>The Proponent must explain in greater detail the reasons for a medium probability or reassess the probability of occurrence and the risk level associated with a forest fire in the study area.</p>
106	CEAA	7.1.2	Vol. 1 Section 11.2.5	<p><b>Accidents and malfunctions – Assessment of the additional risks of accidents and malfunctions identified</b></p>	<p>The Proponent must assess the probability of possible accidents and malfunctions and their severity for all the additional hazards identified in the Supplement to the EIS, as was done in section 11.2.5 of the EIS.</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
			Supplement to the EIS for the CEAA (p. 21)	On page 21 of its Supplement to the environmental impact statement (2019), the Proponent identifies accident scenarios that could have impacts on the environment and that were not presented in the Environmental Impact Statement (EIS) (2018). Although the Proponent discusses potential impacts, it does not provide a risk assessment, i.e. of their severity and their probability.	
107	CEAA	7.1.2	Vol. 1 Section 11.3  Supplement to the EIS for the CEAA (pp. 20 to 32)	<p><b>Accidents and malfunctions – Rapid response of the internal and external teams</b></p> <p>On several occasions in the Environmental Impact Statement (EIS) and in the Supplement to the EIS (2019), the Proponent indicates that the prevention and control measures planned in order to minimize the impacts of the risks of possible accidents and malfunctions will be instituted “rapidly”, particularly by pointing out the emergency response plan, which will permit a “rapid” response.</p> <p>In section 11.3 of the EIS, the Proponent briefly discusses its procedures in the event of an accident with injuries (section 11.3.7), in the event of a fire in a building (section 11.3.8), in the event of a forest fire (section 11.3.9), in the event of a spill of hazardous materials (section 11.3.10), in the event of an explosion (section 11.3.11), in the event of a traffic accident (section 11.3.12) and in the event of a gas leak (section 11.3.13). For each procedure, several teams and individuals can be called upon to respond. Response teams or individual outside responders (such as the Société de protection des forêts contre le feu, the nearest hospital, the 911 emergency service, Urgences-Santé [provincial EMS agency], the Nemaska fire department, the Sûreté du Québec, the explosive supplier, a team specialized in recovery of hazardous materials, the Cree Board of Health and Social Services of James Bay in its response to question QC-84 of the Department of the Environment and the Fight against Climate Change 2019) are even identified in these procedures, in addition to the Critical Elements Corporation’s response teams (emergency command team, emergency response team, health, safety and environment coordinator, emergency measures coordinator, sector coordinator and chief executive officer).</p> <p>However, the Proponent does not provide an estimate of the time required to implement these procedures and it is not possible to determine whether the desired rapid response is technically feasible given the possible coordination between the internal and external parties involved and the location of the site in a remote northern area.</p>	<p>The Proponent must:</p> <p>A) For each of these emergency procedures, estimate a realistic response time (i.e. specify how long it will take each team and each individual to reach the site in order to respond).</p> <p>B) Specify the role of each outside partner in each emergency procedure.</p>
108	CEAA	7.1.2	Supplement to the EIS for the CEAA (p. 27, 30)	<p><b>Accidents and malfunctions – Rapid response and propagation distance of a non-compliant discharge in the final effluent</b></p> <p>On page 30 of its Supplement to the environmental impact statement (2019), the Proponent explains the possible effects of a non-compliant discharge in the final effluent. It indicates that “[translation] the anticipated impacts will be the same as</p>	<p>The Proponent must:</p> <p>A) Specify what it means by “rapid” when it indicates that it plans to respond quickly in the event of a non-compliant discharge in the effluent. The Proponent must present this information in quantitative (time) rather than qualitative terms and provide detailed data on how it plans to respond within</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
				<p>in the case of a spill of hazardous materials in the aquatic environment”.</p> <p>In terms of prevention measures, the Proponent proposes (on p. 27) “[translation] response methods intended to ensure a rapid response during a spill and limit its spread, and therefore its impacts on the components of the environment (response team trained to respond quickly in the event of a spill and contain the product, availability of spill kits, sediment barriers, machinery, etc.)”.</p> <p>It should be noted that the Cree communities raised concerns about possible incidents and their effects on watercourses, particularly in the event of a discharge of non-compliant effluent.</p>	<p>this timeframe.</p> <p>B) In order to estimate the spatial effect of an incident, estimate the possible propagation distances (quantitative) of a non-compliant discharge according to different scenarios of response time and time after the discharge (up to restoration to an uncontaminated state), considering the mobile and less mobile substances in the environment, and represent this information on one or more maps.</p>
109	CEAA	7.1.2	Vol. 1 Section 11.3.1	<p><b>Accidents and malfunctions – Organization and tasks under the emergency response plan</b></p> <p>In section 11.3.1 of the Environmental Impact Statement (EIS), the Proponent indicates in its emergency response plan that the “director of mining site operations” and the “mine superintendent” are responsible for three identical tasks, namely:</p> <ul style="list-style-type: none"> <li>• deciding on the evacuation of the site, if required;</li> <li>• obtaining an assessment of the emergency situation and identifying the initial measures; and</li> <li>• declaring the end of the emergency and authorizing personnel to return to the site, if applicable.</li> </ul> <p>In addition, in section 11.3.3 of the EIS, the Proponent indicates that “[translation] the decision to evacuate the site may be made only by the director of mining site operations or his or her replacement”.</p>	<p>In order to prevent any possible confusion in an emergency situation, the Proponent must identify in its emergency response plan the designated responsible individuals, and their replacement, for each task. Justify if this is not possible.</p>
110	CEAA	7.1.2	Vol. 1 Section 11.3.7	<p><b>Accidents and malfunctions – Response time of hospital services</b></p> <p>In section 11.3.7 of the Environmental Impact Statement, the Proponent indicates that the emergency response team must contact Urgences-Santé and the nearest hospital.</p> <p>It adds that, if required, victims will be transferred by ambulance.</p> <p>The Cree Nation Government (CNG) also raised concerns about the cooperation mechanisms between the Proponent and the Cree Board of Health and Social Services of James Bay in the event of an incident involving multiple injured persons and requiring their evacuation. The CNG also points out that the Nemaska clinic is the health service closest to the Rose project.</p>	<p>The Proponent must:</p> <p>A) Given the location of the project site in a remote area, identify without delay the nearest hospital that will be contacted if necessary.</p> <p>B) Estimate the time that it would take an ambulance to arrive on the scene of the project site from its starting point.</p> <p>C) Indicate whether transfer by helicopter is feasible and, where applicable, estimate the time of arrival of an emergency service by helicopter on the scene of the project site.</p>



Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
111	CEAA	7.1.2	Vol. 1 Section 11.3.8	<p><b>Accidents and malfunctions – Involvement of the Nemaska fire department</b></p> <p>In sections 11.3.8, 11.3.10, 11.3.11 and 11.3.12 of the Environmental Impact Statement, under emergency procedures involving fires, the Proponent indicates that “[translation] the assistance of the Nemaska/Nemiscau fire department” could be requested if required.</p>	<p>The Proponent must, with respect to the possible involvement of the Nemaska fire department in its emergency procedures involving fires, specify:</p> <ul style="list-style-type: none"> <li>• the number of firefighters</li> <li>• their availability (for example 24/7)</li> <li>• their response time and time to arrive on the scene.</li> </ul>
112	CEAA	7.1.2	Vol. 1 Section 11.3	<p><b>Accidents and malfunctions – Emergency response plan (Information passed on to the Indigenous communities)</b></p> <p>On several occasions in its emergency response plan (section 11.3 of the Environmental Impact Statement), the Proponent indicates that it will ensure that the various response groups and government departments are kept informed of the various incidents that might occur.</p>	<p>The Proponent must:</p> <p>A) Indicate whether it plans, for any type of incident, whether minor or not, to inform the Indigenous communities (Eastmain, Nemaska and Waskaganish) of the incident and of the follow-up of the situation as well as passing on to them the various incident reports.</p> <p>B) Assess the possibility of informing these three Indigenous communities within a timeframe of 24 hours following the incident and indicate how it would be possible.</p>
113	CEAA	7.1.2	Vol. 1 Section 11.3	<p><b>Accidents and malfunctions – Emergency response plan (availability of responders)</b></p> <p>In section 11.3.1 of the Environmental Impact Statement, the Proponent provides a brief description of the main roles and responsibilities of the responders under the emergency response plan.</p> <p>It indicates, among other things, that at least one member of the emergency response team will be on site when industrial activities are underway. The Proponent goes on to add that the response team members will be responsible in particular for ensuring that “[translation] they can be reached and are available at all times (when on duty)”.</p>	<p>The Proponent must:</p> <p>A) Indicate how many members of the emergency response team, apart from the member on site, will be on duty at all times and explain the reasons why this number will be sufficient.</p> <p>B) Indicate what is meant by “be available at all times” with respect to the members of the emergency response team, i.e. specify whether the members on duty must be able to travel to the site within a maximum given time, for example.</p> <p>C) Specify what is meant by the statement that the members on duty “can be reached at all times”, i.e. specify whether these members will have at their disposal a means of communication that is effective in a remote area (for example a pager, a satellite telephone).</p>
114	CEAA	7.1.2	Vol. 1 Section 11.3	<p><b>Accidents and malfunctions – Emergency response plan (presentation of the procedures and of the alerting process)</b></p> <p>The Proponent presents in its emergency response plan (section 11.3 of the Environmental Impact Statement) several response procedures as well as an alerting process. These procedures and the alerting process consist of several action steps presented in the form of a list.</p>	<p>The Proponent must, given the importance of effective understanding in emergency situations, present for each of the response procedures and for the alerting process a communication diagram identifying the various responders. The Proponent could consider these diagrams an integral part of the emergency response plan and of the training that will be given to the various responders.</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
<b>Environmental monitoring program and environmental management plans</b>					
115	CEAA	16	Vol. 1 Section 6.4.5.2	<p><b>Environmental monitoring and management – Monitoring of surface water</b></p> <p>In the section detailing the changes affecting the physicochemical characteristics of the water of lakes 3, 4 and 6 and their thermal regime (p. 6-66 of the Environmental Impact Statement), the Proponent indicates that “[translation] the characterization of the planned new pumping wells will be necessary”.</p>	The Proponent must specify when and how this characterization will be carried out (for example, before or during the work, or at various times during the project).
116	CEAA		Vol. 1 Sections 4.4, 4.5.1 and 14	<p><b>Environmental monitoring and management – Roles of the committees</b></p> <p>The Proponent plans to establish a monitoring committee, whose objective will be to facilitate the involvement of the local community in the project as a whole. This committee will be established upon commencement of construction of the project and will continue to operate until completion of all work planned under the restoration and redevelopment plan. The monitoring committee will be composed of at least one representative of the municipal sector, a representative of the business community, a local resident and a representative of an Indigenous community consulted by the government with regard to the project.</p> <p>The Proponent also plans to establish a discussion and consultation committee in order to discuss and devise solutions to the various issues related to the activities of the mine. This committee could include area users, members of the Eastmain community, mine workers, representatives of Eastmain services or of the Band Council, etc.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Specify the roles of each of these two committees.</li> <li>B) Specify which committee will be responsible for the monitoring and follow-up activities at the mine.</li> <li>C) For each of the two committees, assess the possibility of including a representative of the three communities concerned by the project, namely Eastmain, Nemaska and Waskaganish. If not, justify.</li> </ul>
117	SVP		Vol. 1 Section 14	<p><b>Environmental monitoring and management – Quick identification of contamination</b></p> <p>The Proponent plans to implement several environmental monitoring and follow-up programs. However, it is not clearly indicated how the Proponent could quickly identify contamination of the environment caused by the activities of the mine. The Proponent does not provide enough details on the frequency of monitoring and follow-up to ensure that, in the event of an incident of contamination, corrective action could be taken quickly after the finding of contamination.</p>	The Proponent must, for each monitoring and follow-up program that it plans to implement, specify how the program will make it possible to quickly identify an incident of environmental contamination.
118	SVP		Vol. 1 Section 4.1	<p><b>Environmental monitoring and management – Access to monitoring results</b></p> <p>In section 4.1 of the Environmental Impact Statement, the Proponent indicates that “[translation] The communication program has the following objectives: [...] Disseminate the results of the field studies.”</p> <p>On page 4-10, the Proponent also makes the following commitments: “[translation] We also note the importance of passing on to the community the results of the</p>	The Proponent must indicate whether it also plans to make public the results of these monitoring and follow-up programs (i.e. make them available to parties other than the communities affected by the project), and by what means.

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				studies carried out in the context of the project. CEC undertakes to respect this commitment.”	
119	SVP		Vol. 1 Section 6.4.8	<p><b>Environmental monitoring and management – Sediment quality monitoring program</b></p> <p>The Proponent plans to implement a water and sediment quality monitoring program to minimize the effects of the project on surface water and sediment quality. For the purposes of this monitoring program, the Proponent plans to “[translation] determine a baseline condition and monitor the water quality in the watercourse receiving the effluent”.</p> <p>It is not specified whether the Proponent plans to conduct monitoring in order to compare the quality of the sediments upstream (or in areas not affected by the Proponent’s prospecting activities) and downstream of the Rose mining complex. Such a program could serve to identify in the watercourses downstream of the mining site potential areas of deposition of suspended matter originating from the overburden, waste rock and tailings piles.</p>	The Proponent must indicate whether the sediment quality monitoring program will permit a comparison between the quality of the sediments upstream and downstream of the mining complex. If not, justify this decision.

**Description of the effects on the components affecting the Indigenous communities – Current use of lands and resources for traditional purposes**

120	HC	9.1 9.1.1	Vol. 1 p. 4-21 p. 8-57 p. 8-60 p. 8-61 p. 8-62	<p><b>Current use by Indigenous peoples – Mitigation measures minimizing the effects on traditional food harvesting activities</b></p> <p>In order to minimize the impact of the project and of the mine activities on traditional food harvesting activities, the Proponent agrees to make the “necessary adjustments” to reduce any nuisances: “[translation] We also point out that frequent and regular contacts will be maintained between the tallyman of trapline RE1 and the Critical Elements Corporation so as to ensure that the mine activities do not adversely affect the activities of area users, and if required, make the necessary adjustments”. (p. 4-21; 8-62)</p> <p>The Proponent plans to implement: “[translation] Measures aimed at minimizing any disturbances caused by mine activities during the waterfowl hunting season in the spring and the moose-hunting season in the fall”. (p. 8-60)</p> <p>The Proponent plans to implement a: “[translation] Medicinal plant harvesting program for community purposes, prior to construction”. (p. 8-61)</p> <p>During construction, the Proponent plans to implement “measures intended to facilitate the relocation of activities affected”: “[translation] Measures intended to facilitate the relocation of activities affected by the project (moose hunting grounds, snowmobile trails, fishing sites, etc.)”. (p. 8-61) The Proponent also plans to implement: “[translation] Several mitigation measures will be implemented during</p>	The Proponent must specify the mitigation measures aimed at minimizing the project’s effect on traditional food harvesting activities (e.g. hunting, fishing, berry-picking/harvesting of medicinal plants, etc.) and review its impact assessment with these mitigation measures.
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Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
				<p>the construction and operation phases in order to enable area users to continue their traditional activities either at the same location or elsewhere in the area". (p. 8-61)</p> <p>However, the Proponent indicates that users will have to "adapt" their practices to the presence of the mine without furthermore explanation: "[translation] The presence of the mine and mine activities will not prevent Cree users from pursuing their activities, particularly hunting, fishing and trapping. However, they will have to adapt their practices to the presence of the mine." (p. 8-57)</p>	
121	CEAA TC	9.1.3	4.2.5  8.3	<p><b>Current use by Indigenous peoples – Use and description of waterways</b></p> <p>In section 1.9.3 of the Guidelines for the preparation of the Environmental Impact Statement (EIS), the Agency asks the Proponent to describe land and water access to the area, including navigation routes and types of vessels.</p> <p>The guidelines also ask the Proponent to describe how the project may impede navigation and to add information in the EIS to:</p> <ul style="list-style-type: none"> <li>• Identify any project components that will affect waterways and water bodies, including a description of any activities (e.g. dredging, alteration of water bed and/or water banks) that may affect waterways and water bodies;</li> <li>• Provide information on current and historic usage of all waterways and water bodies that will be directly affected by the project, including current Aboriginal uses, where available.</li> </ul> <p>The Proponent's EIS does not contain enough information to enable the Agency to assess the project's effects on navigation. The Proponent mentions navigation only in the following passages of its EIS: "[translation] In addition, it should be noted that the watercourses and water bodies located in the project area are also little used by area users. The watercourses in this area are not considered navigable waterways, particularly since several of them are small and intermittent in nature. No impacts on navigation are therefore anticipated during this project." (p. 4-5); "The implementation of the project will not result in any changes to usage by the Cree for navigation: the affected watercourses are not used to travel within the area." (p. 8-45)</p> <p>This information would also allow Transport Canada to determine whether the project will require an order under the <i>Navigation Protection Act</i>.</p> <p>Additional information is necessary in order to determine the navigability of the affected watercourses. The use of the watercourses by the Eastmain, Waskaganish and Nemaska communities must be better documented.</p>	<p>The Proponent must consult all the stakeholders concerned (tallymen, band councils of the Eastmain, Waskaganish and Nemaska communities and/or the environmental administrative services of these communities) for the traplines where Lake 1, Lake 2, the upstream portion of Lake 3, Watercourse B and part of Stream A (between Lake 1 and the main mining effluent) are located and provide the following information for each watercourse (the answer to each question must be accompanied by sufficient details so that the answer can be verified; the following questions to be asked during the consultations are in English since the majority of the stakeholders to be consulted are Anglophones):</p> <ol style="list-style-type: none"> <li>1. Is there a local name (toponym) for this waterbody/waterway?</li> <li>2. Among the waterbodies/waterways identified to be affected by the project, identify any that are used as means of transportation or travel for commercial or recreational reasons or as means of transportation or travel of Indigenous peoples to exercise recognized and affirmed by section 35 of the <i>Constitution Act, 1982</i>?</li> <li>3. Specify whether this use is either current and/or in the past?</li> <li>4. Provide details as to the current/past use of these water bodies/waterways?</li> <li>5. Is there any reasonable likelihood that any of them could be used in the future even if they aren't currently used? If yes, why?</li> <li>6. If there is a desire to use these water bodies/waterways in the future, could you provide any specific details on how they would they be used?</li> <li>7. Are any of the water bodies/waterways used in connection with others to link interior water bodies/waterways together to create a water network that extends beyond the limits of an established water channels?</li> </ol> <p>If some information were not available, specify the steps taken to obtain it.</p>

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122	CEAA	7.2.1	Vol. 1, sections 8.3.4.2 and 9.1.3	<p><b>Current use by Aboriginal Peoples — Human environment study area and zone of influence</b></p> <p>In the guidelines, the Proponent was advised to consult with Aboriginal groups to confirm the project’s spatial boundaries (Section 7.2.1). The Agency specified that the study boundaries must be defined taking into account the spatial extent of potential environmental effects, traditional and local knowledge, current land and resource use by Aboriginal groups, and ecological, technical, social and cultural considerations.</p> <p>In Section 8.3.2 of the Environmental Impact Statement (EIS), the Proponent states that the human environment study area is the one used to assess the effects of the project on the “current use of lands and resources for traditional purposes” component. The Proponent then specifies that this is an area of 256 km<sup>2</sup> including all the proposed infrastructure (pit, plants, etc.) as well as a zone of influence extending approximately 5 km around the project components. However, the Proponent does not provide any rationale for the choice of this zone of influence.</p> <p>In Section 8.3.2.4 of the EIS, the Proponent indicates that the selected human environment study area overlaps four traplines: R16 and R19 in the community of Nemaska, R10 in the community of Waskaganish and RE1 in the community of Eastmain. In Section 8.4.2, the Proponent mentions that an extended study area in the Eeyou Istchee James Bay territory was used to describe conditions related to community well-being.</p> <p>During Agency’s consultations with the Nemaska community, the community reiterated several times its concerns about the human environment study area boundaries, which do not include the roads that will be used by the project, nor all the users of traplines R16 and R19 and their camps. The community also indicated that the proximity of the project to the community (38 km) must be taken into account when assessing the effects. The human environment study area, as defined by the Proponent, does not enable to assess the potential effects of the project on the current uses of the nine Nemaska families (R19) using camps on either side of the Nemiscau-Eastmain-1 road.</p> <p>On reading the EIS, the Agency is unable to determine whether the Cree communities affected by the project were consulted to establish the spatial boundaries of the human environment study area used, in particular to assess the project’s effects on current land uses for traditional purposes, and whether their comments, concerns and knowledge were taken into account in determining these boundaries.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Specify whether and which Cree communities were consulted when establishing the human environment study area. If these consultations have not been carried out, reassess the size of the human environment study area in light of the comments, concerns and knowledge of the Cree communities. Provide documents indicating the dates of the consultations, the comments and concerns raised during these consultations and how they influenced the choice of the study area.</li> <li>B) Justify the perimeter of the zone of influence of the human environment study area.</li> <li>C) Integrate the Cree camps on the Nemaska R19 trapline that are accessible by the Nemiscau-Eastmain-1 road to the human environment study area. Inquire about the level of confidentiality required from the tallymen and provide these responses confidentially to the Agency, as appropriate.</li> <li>D) Assess the effects of the project, including the increase in road traffic, on the current use of lands and resources for traditional purposes by the users of these camps (in C) and related activities. The Proponent must assess the effects on the quality of the experience to Crees using the camps as well as on access to those camps.</li> <li>E) Provide maps showing all the traplines, i.e. RE1, R16 and R19 (Nemaska) and R10 (Waskaganish), including the location of areas valued for hunting, fishing and gathering as well as the precise location of the camps. The precise trajectory of the final mine effluent in the Waskaganish trapline must be indicated on the appropriate maps. These maps must show the location of future land and resource use areas proposed by the tallymen and camp relocation areas currently known by the Proponent. Inquire about the level of confidentiality required from the tallymen and provide these responses confidentially to the Agency, as appropriate.</li> </ul>

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				<p>During the Agency's consultations with the community of Waskaganish, the community repeatedly indicated that it did not understand or visualize the precise trajectory of the water flowing from the final mining effluent on the community's R10 trapline.</p> <p>As part of its assessment of the project's impacts on the Cree communities' Aboriginal and treaty rights, the Agency would like information about the areas identified for the relocation of the Cree camps on traplines RE1, R16 and R19, if this information is known to the Proponent.</p>	
123	CEAA	10.1.3	Vol. 1, Section 4.4	<p><b>Current use by Aboriginal Peoples — Cree income security and monitoring programs and tallyman governance</b></p> <p>In Section 8.3.8 of the Environmental Impact Statement (EIS), the Proponent proposes a program to monitor the use of the land and resources for traditional purposes by the RE1 tallyman and his family. The monitoring would be carried out before construction to establish a baseline and eight other times during the life of the project and would consist of several meetings on various themes related to land and resource use. The main objective would be to ensure that the mine's activities do not harm those of land users and to adjust accordingly. The Proponent proposes to submit monitoring program reports to the Exchange and Consultation Committee. This committee seems to be the main recipient of the various proposed monitoring reports related to the Cree communities.</p> <p>The Proponent does not propose to specifically monitor: the users of traplines RE1, R16, R19 and R10 registered in the Cree income security program over the years, the number of migratory and woodland caribou and moose harvested annually, the assessment of camp relocation and the effects perceived by the tallymen affected by the project on their governance role and their ability to manage wildlife.</p> <p>On page 8-32 and the following pages of the EIS, the Proponent documents the Cree Hunter and Trappers Income Security Program (ISP), stating that, for the 2000-2001 to 2014-2015 period, the participation rate in the entire Eeyou Istchee James Bay territory dropped 6% on average. In Eastmain, the percentage of ISP participants decreased from 13% to 10% during this period and from 17% to 5% in Nemaska. The Proponent adds that, in Eastmain, 79 people (64 adults and 15 children for 51 family units) were registered in the ISP in 2014-2015, and 41 people (36 adults and 5 children for 24 family units) in Nemaska. It should be noted that the ISP provided an average income of a little over \$16,700 per claimant unit (family) in 2014-2015. On page 8-53, the Proponent specifies that three Nemaska members using trapline R19 are registered in the ISP.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Indicate, on Map 8-4 of the Environmental Impact Statement, the camps used by the Cree Income Security Program participant(s) in the human environment study area, and assess their ability to continue to depend on resources during the various phases of the project and propose mitigation measures, if necessary.</li> <li>B) Justify why its traditional land-use monitoring program does not include the Nemaska R19 trapline tallyman and comment on the possibility of including him in this monitoring.</li> <li>C) Improve the Traditional Land Use Monitoring Program by considering Cree Income Security Program participant(s), the number of migratory and woodland caribou and moose harvested annually, the assessment of camp relocation and the effects perceived by the tallymen affected by the project on their governance role and their ability to manage wildlife. In the case where the Proponent concludes that an improvement is not necessary, justify.</li> <li>D) Assess the potential effects of the project on the governance ability of tallymen on traplines RE1 (Eastmain), R16 and R19 (Nemaska) and R10 (Waskaganish) by incorporating their views after consultation.</li> </ul>



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				<p>On page 8-49 of the EIS, it states that the tallyman is responsible, within the boundaries of the land on which he has rights, for dividing each year the resources to be exploited and the areas to be preserved in order to ensure the renewal of the species harvested. It also states that the tallyman remains an emblematic figure of the traditional lifestyle and knowledge associated with it, that he represents and leads the group of regular trapline users, and that these are generally members of his extended family and the families of his hunting partners.</p> <p>During the Agency's consultations with the Nemaska community, the community expressed concern about the potential effects of the project on current use by the nine Nemaska families (R19) using camps on either side of the Nemiscau-Eastmain-1 road. The community of Nemaska has expressed concern about the increase in noise and vibration that could force families to hunt elsewhere.</p> <p>As part of its assessment of the project's impacts on the Cree communities' Aboriginal and treaty rights, the Agency will seek to assess the extent to which the project could affect the tallymen's governance role, including their ability to manage resources and land satisfactorily if wildlife or users avoid the area or a large portion of the trapline, for example. The Agency will also seek to assess the extent to which the project may affect the ability of land users to use and depend on the resources, including the means, diversity, quantity and availability of resources and habitat, in areas of cultural significance. To complete this same analysis, the Agency will seek to assess the extent to which the project affects the sense of well-being, remoteness, loneliness, privacy and security at the camps on the territory. The information presented in the current EIS makes it difficult for the Agency to determine the severity of the impacts of these factors on rights.</p>	
124	CEAA		Vol. 1, Section 10.7.6.4	<p><b>Current Aboriginal use—Potential cumulative effects on Cree communities</b></p> <p>In Section 10.7.6.4 of the Environmental Impact Statement (EIS), the Proponent states that, "[translation] based on the impact assessment of the Rose mining development project, it was determined that the proposed project would have a minor residual adverse effect on Cree land use. For Cree users, the loss of tranquility in the vicinity of the project could lead to the avoidance of certain valued areas or the disruption of traditional activities. It should be noted that there will be a permanent workers' camp on site at the mine, approximately 4 km from the pit, on the RE1 trapline. It will accommodate 280 employees during operations."</p> <p>On page 10-54 of the EIS, the Proponent states that "[translation] carrying out the Whabouchi mining project will change the current use of the land and resources, particularly within the R20 trapline, which is used by many members of the Nemaska community. The Rose mining project, located 40 km northwest of the Whabouchi mining project, partially affects the same users, particularly those who have already had to adapt their land use to the creation of the Eastmain-1</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Justify the levels of intensity and extent determined for the analysis of cumulative effects on the current use of lands and resources by the Cree and, if necessary, reassess the conclusion.</li> <li>B) Clarify whether members using the R20 trapline have already moved their traditional activities to traplines R19 and/or R16 as a result of the Whabouchi mining project and propose mitigation measures to minimize the project's cumulative effects on the current use of lands and resources for traditional purposes, considering in particular the Nemaska R20 tallyman.</li> <li>C) Complete the assessment of cumulative effects on the traditional land and resource use, considering the R20 tallyman. It appears that he is an important source of information since he is currently experiencing changes related to a mining project in the same area that is smaller than the Rose mine project.</li> </ul>

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				<p>reservoir in 2006 and its modification (Eastmain-1-A power plant), which began in 2009. These users in Nemaska and Eastmain are therefore particularly affected by changes on their traplines, more so than those in Waskaganish, whose trapline is located near the Rose mining project, but away from the Eastmain-1 reservoir and the Whabouchi mining project. The territory still remains vast and can allow for the movement of harvesting activities (hunting, fishing and trapping). However, it is necessary for the Crees to invest time and resources to find new harvesting sites and adapt to them.”</p> <p>On page 10-55 of the EIS, the Proponent states that, “[translation] at this time, the cumulative effect on land and resource use is limited to a fairly small area. It will be felt especially by families who use the trapline on which the project is located (RE1), as well as by families who use the trapline south of it (R19) and who own various camps along the Nemiscau-Eastmain road. The cumulative effect on this VC could increase if various potential mining projects are carried out in the area, despite the fact that Cree users are taken into account in the various planned mitigation and compensation measures. Noise, light, dust, increased traffic, loss of wildlife habitat and related traditional activities resulting from each new project on this territory will affect an increasing number of users, especially since the number of users is expected to continue to increase. The Proponent then concludes that the project’s potential for cumulative effects on the current use of lands and resources by the Crees is moderate in intensity, limited extent and of long term duration. The cumulative effect is therefore not considered significant.”</p> <p>In Section 10.8 of the EIS, the Proponent concludes that, according to its analysis, the implementation of additional mitigation measures is not required given that “[translation] the analysis of cumulative effects on the six valued components leads to the conclusion that the project will only result in insignificant cumulative effects on the Eastmain and Nemaska Cree communities.”</p> <p>Based on the information presented by the Proponent, the Agency does not understand how the Proponent concluded that cumulative effects were not important.</p> <p>Moreover, the Proponent specifies on page 8-60 of the EIS that “[translation] compensation or relocation of the camps located along the Nemiscau-Eastmain-1 road (camps other than the RE1 camp)” is one of the possible mitigation measures to limit the project’s effects on traditional land use. During the consultation, the Eastmain community expressed to the Agency its concern about potential cumulative effects on its land users, particularly because of the James Bay lithium mine project (Galaxy Lithium Canada Inc.), also currently undergoing a federal environmental assessment, which would also take place on Eastmain community traplines (RE2, RE1, VC33 and VC 35). In Tables 10-17 and 10-18 of the EIS, the</p>	<p>D) Review its assessment of cumulative effects on the traditional use of the Eastmain community’s land by adding the James Bay lithium mine project to future mining projects and reassess the mitigation measures to be put in place.</p> <p>E) Assess the cumulative effects on the use of traplines RE1, R16 and R19 for traditional purposes by integrating the views and knowledge of the Eastmain and Nemaska tallymen and present to the Agency the mitigation measures identified by them, if any.</p> <p>F) Assess the cumulative effects of increased road traffic on the traditional use of traplines RE1 (Eastmain) and R19 (Nemaska).</p> <p>G) Indicate how it intends to ensure, in possible synergy with other proponents in the region, that appropriate mitigation measures will be put in place in the event that cumulative effects are noticed by land users.</p>

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				<p>James Bay lithium mine project is not included in the list of other current or future mining projects of the assessment of cumulative effects on traditional land use.</p> <p>The Proponent should consider the mitigation measures that resulted from its consultations with Cree communities in the fall of 2018, including the restoration or improvement of a moose yard or a goose-hunting pond, and the implementation of a program for Cree youth.</p> <p>As part of its assessment of the project's impacts on the Cree communities' Aboriginal and treaty rights, the Agency will seek to assess:</p> <ul style="list-style-type: none"> <li>• the extent to which Cree communities have confidence in the mitigation measures proposed by the Proponent. This assessment may be based on the level of community participation in the development of these measures;</li> <li>• whether the mitigation measures put in place sufficiently minimize or offset the potential cumulative effects of the project on traditional land use;</li> <li>• to what extent the project compromises or alters the transmission of Cree knowledge related to traditional land use by restricting access to the land and culturally valued areas;</li> <li>• if the project results in inequitable impacts within the same Cree community, by identifying the resilience of the affected groups, in order to determine whether or not the project will sustainably affect subgroups already vulnerable to other projects or development activities.</li> </ul> <p>The information presented in the current EIS is not sufficient to enable the Agency to comment on the level of severity of impacts to rights with respect to these factors.</p>	
125	CEAA	9.2	Vol. 1 Sections 4-20, 4.2.6.2 and 4.4	<p><b>Current use of Aboriginal peoples — Safety of land users</b></p> <p>In the minutes of meetings between Nemaska tallymen and the Proponent in the fall of 2018, the R19 tallyman raised concerns about the safety of land users and asked whether visible fences or prohibited areas would be erected to prevent people from harvesting resources too close to the mine. During consultations, the Agency learned that members of the Nemaska community sometimes hunted on the RE1 trapline, given its proximity to the community. Eastmain, Nemaska and Waskaganish communities are important sources of information.</p>	The Proponent must propose measures to ensure the safety of people in the vicinity of mine infrastructure. Provide justification in the absence of such measures.
126	CEAA	9.2	Vol. 1 Sections 4-20, 4.2.6.2 and 4.4	<p><b>Current use of Aboriginal peoples — Consultation with the tallyman of the R08 trapline</b></p> <p>The Waskaganish community informed the Agency that the tallyman of the R08 trapline may be concerned by the impacts of the project. Yet, documents received</p>	The Proponent must specify whether the tallyman of the R08 Waskaganish trapline was contacted about the project, whether he expressed interest in being consulted and whether he commented on the project, if applicable. If not, consult this person and provide this information to the Agency.

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				to date under the Environmental Impact Statement do not mention the tallyman of the R08 trapline at all.	
127	CEAA		Vol. 1 Sections 4.2.6.2, 8.3.6.3, 8.4.6.1, 8.6.6.3, and 8.6.7.1	<p><b>Current use of Aboriginal peoples — Proposed mitigation measures related to mine closure impacts</b></p> <p>On page 8-61 of the Environmental Impact Statement (EIS), the Proponent identifies a mitigation measure related to mine closure impacts on current use of land and resources for traditional purposes by Cree communities: “Whenever possible, leave mine facilities on site at the request of the RE1 Land Trappers.”</p> <p>On page 8-75 of the EIS, the Proponent identifies the following measure to mitigate mine closure impacts on the Cree community well-being and human health: “Participation of Cree representatives in the development of the restoration plan for the mine site.”</p> <p>On page 8-97 of the EIS, the Proponent details the modification of the visual aspect of the site landscape by indicating, “natural flooding of the pit and reclamation, including revegetation and reforestation of the dismantlement sites at the end of work, will reduce the industrial appearance of the site landscape”. The Agency notes that the Proponent already seems to have identified a restoration scenario.</p> <p>In Section 8.6.7.1 of the EIS, the Proponent proposes revegetating the portion of the dumps that exceed the treetops and planting coniferous trees on the west side of the Némiscau-Eastmain-1 road, along sections closest to the pit (near the camp) to limit the views of the dumps. The Proponent does not specify when it will implement these specific mitigation measures.</p> <p>As part of its assessment of the project’s impacts on the Aboriginal and treaty rights of Cree communities, the Agency will seek to assess the extent to which the project compromises or alters the ability of future Cree generations to use the land and enjoy their natural heritage. With the information contained in the impact study, it is difficult for the Agency to determine the level of severity of the impacts of these factors on these rights.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Consult the tallymen of the RE1 trapline and his family about the mine restoration plan and the preferred type of vegetation for reforestation and revegetation of dumps, in order to promote the resumption of traditional activities in the mine area by future generations.</li> <li>B) Analyze suggestions from users and justify the options chosen.</li> <li>C) Specify the year(s) of the project during which revegetation of the dumps is expected and whether progressive revegetation is possible.</li> <li>D) Specify if Nemaska and Waskaganish tallymen will be inform about mine facilities that will remain on site at the request of the RE1 tallyman. Otherwise, provide justification to explain reasons they would not be informed.</li> </ul>
128	CEAA		Vol. 1 p. 8–56	<p><b>Current use of Aboriginal peoples — Loss of territory to perform traditional activities and displacement of Cree camps</b></p> <p>On page 8–56 of the Environmental Impact Statement, the Proponent indicates that the project will result in the displacement of a Cree camp to a suitable site for RE1 members, along with the loss of one of camp users’ sources of drinking water.</p>	<p>The Proponent must assess the effects of the displacement of the Cree camp and the loss of one of camp users’ sources of drinking water. Identify mitigation measures that will be implemented.</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
129	CEAA		Vol. 1 Section 8	<p><b>Current use of Aboriginal peoples — Moose and goose hunting</b></p> <p>On page 8–56 of the Environmental Impact Statement (EIS), the Proponent says: “[translation] The activities of Cree users of the land within the study area could temporarily be disturbed by mine construction activities and traffic created by workers, machinery and the provision of supplies to the site along the Nemiscau-Eastmain-1 road. As shown in Section 8.3.4.1, families participate in moose and waterfowl hunting activities during Cree community holidays. In the spring, they hunt waterfowl. In the fall, they hunt moose. The construction period will overlap both seasons. The Proponent has committed to implementing measures to limit disturbances caused by mining activities during these periods. However, moose and waterfowl hunting in particular may be impacted by those species temporarily abandoning or avoiding this area. The users will need to adapt their practices to these new conditions.</p> <p>In addition, mine construction operations may disrupt the peacefulness of the area, especially at Cree camps on the outskirts of the mine site.</p> <p>Finally, common mitigation measures applied during the construction phase to reduce noise, dust, vibration, traffic and light pollution will minimize negative impacts.”</p> <p>On page 8-50 of the EIS, the Proponent mentions that “[translation] Cree families honour their traditions and get together to practice hunting activities twice a year. The goose hunting holiday—the Goose Break—takes place in the spring and lasts two weeks (end of April, start of May). At this time, schools within the Cree school board are closed, as well as most Cree businesses and organizations. In the fall, the communities go moose hunting during the Moose Break, which also lasts two weeks.”</p> <p>In Section 8.3.6.1 of the EIS, the Proponent proposes the following mitigation measures in the construction, operation, maintenance and closure phases:</p> <ul style="list-style-type: none"> <li>• Measures to limit disturbance caused by mining activities during spring waterfowl hunting and fall moose hunting periods;</li> <li>• Inform Cree land users of the calendar of activities for the construction, operation and maintenance and closure of the mine.</li> </ul>	<p>The Proponent must:</p> <p>A) Provide details for “Measures to limit disturbance caused by mine activities during spring waterfowl hunting and fall moose hunting” by specifying what those measures are, who will be involved in implementing them, when and where they will take place, and what the expected result will be. The Proponent must develop the measures considering the opinions gathered during the consultations, in particular those of the tallymen concerned.</p> <p>B) Assess the possibility of suspending extraction activities during goose hunting and changing the operation calendar based on these intensive periods of land use, considering in particular the opinion of the tallymen concerned by the project. If applicable, specify the changes that will be made to the activities and schedule of operations. Otherwise, provide justification.</p> <p>C) Assess whether it would be possible to suspend, limit or group together transportation activities related to ore concentrate, mine supplies, hazardous material and domestic waste during the four weeks of geese and moose hunting, or to establish a special traffic management plan during these hunting periods. If applicable, specify the changes that will be made to the transportation activities and schedule of operations. Otherwise, provide justification.</p>
130	CEAA		Vol. 1 Sections 7.5 and 8.3.4.2	<p><b>Current use of Aboriginal peoples — Change in mammal behaviour</b></p> <p>In Section 8.3.4.2, the Environmental Impact Statement (EIS) notes that traditional use of Eastmain, Nemaska and Waskaganish traplines includes hunting the following species: moose, bear, woodland caribou and beaver. The EIS (Section 7.5) specifies that the other key species of large mammals in the study area are the migratory caribou, the wolf and the fox.</p>	<p>The Proponent must:</p> <p>A) For each large mammal species hunted in the traplines, present the behavioural changes reported in the literature or in reports from similar projects, relating to the presence of a mining project (behavioural changes towards humans, abandonment and migration for feeding and reproduction, for example). The Proponent must explain this information in plain language</p>

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				<p>The Eastmain community informed the Agency of its concern for possible behavioural changes among large mammals resulting from the presence of the mine and the workers' camp. It also shared a concern about possible changes in behaviour for the black bear in the vicinity of the workers' camp and of the resulting safety issues for humans.</p> <p>The Waskaganish community also told the Agency that it wanted to understand which animals would be the most affected by the project.</p>	<p>in a summary table intended for a Cree audience (with photos and Cree translations for key words, if possible).</p> <p>B) Suggest special mitigation measures for bear and wolf management near mine infrastructure and the workers' camp with respect to human safety. Provide justification in the absence of such measures.</p> <p>C) Document Cree knowledge in the Nemaska community about behavioural changes among large mammals observed since the start of the Whabouchi mining project in order to supplement the information.</p> <p>D) After gathering this information, propose additional mitigation measures to reduce the project's impact on terrestrial mammals.</p>
131	CEAA		Vol. 1 Section 8	<p><b>Current use of Aboriginal peoples — Valued moose and goose hunting grounds</b></p> <p>Pages 8-52 to 8-55 of the Environmental Impact Statement (EIS) indicate that all traplines potentially impacted by the project (RE1, R16, R19 and R10) contain valued moose hunting grounds. In the case of the RE1 trapline, anticipated mine infrastructure will lead to the direct loss of valued moose hunting grounds. In the case of the R19 Nemaska trapline, land users have camps on either side of the Nemiscau-Eastmain-1 road and Route du Nord for access to valued moose hunting grounds.</p> <p>The EIS specifies that one of the Cree camps located on RE1 land will be relocated. On page 8–60 of the EIS, the Proponent proposes, "Compensation or relocation for the camps located along the Nemiscau-Eastmain-1 road (camps other than the RE1 trapline)." It is the Agency's understanding that these are the Nemaska camps of the R19 trapline, but it is not possible to determine from reading the EIS whether Nemaska users (R19) have in fact asked for their camps to be relocated and if so, where.</p> <p>In Table 13-16 of the EIS, the Proponent proposes the following mitigation measure: "Measures to facilitate the movement of activities affected by the project (moose hunting grounds, snowmobile trails, fishing grounds, etc.)."</p> <p>On page 8-56 of the EIS, the Proponent anticipates a potential disturbance of goose and moose hunting on the RE1 trapline due to mine construction activities.</p> <p>On page 7-129 of the EIS, the Proponent states that: "[translation] Moose density in hunting zone 22, where the natural environment study area is located, is one of the lowest in Quebec. Furthermore, according to the Cree Trappers' Association an average of 32.6 moose were harvested annually between 2012 and 2016 in the</p>	<p>The Proponent must:</p> <p>A) Specify whether Cree camps within Nemaska traplines (R19) that are mainly used for moose hunting will be relocated, and whether users have already been consulted about this issue (provide a summary of discussions held with users) or when they will be.</p> <p>B) Define and specify how the following mitigation measure will be implemented: "Measures to facilitate the movement of activities affected by the project (moose hunting grounds, snowmobile trails, fishing grounds." In particular, how will the Proponent will conduct "the movement of activities affected by the project", especially with respect to moose hunting grounds in RE1, R16, R19 and R10 traplines, what are the chances of success for such an operation and if tallymen will be contacted about this matter.</p> <p>C) Propose additional mitigation measures to minimize or compensate for impacts on moose hunting, as the moose is a valued species in this area. Otherwise, provide justification for the absence of such measures.</p> <p>D) Specify whether the Proponent expects to "move" the man-made pond for goose hunting in the RE1 trapline when the camp next to it is moved, in order to create another goose hunting ground for the users. If applicable, provide details about this relocation (eg. geographic location, assessment of environmental effects associated with the development of the new pond).</p>



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				<p>Eastmain community (Cree Trappers' Association, 2017). The low moose density in the boreal region of Quebec can be explained in large part by an unproductive habitat. The low availability and poor quality of food is most critical in the winter. The typical moose wintering habitat almost always includes mixed wood where the layout of softwood and hardwood provides shelter near feeding areas."</p> <p>According to the minutes of the fall 2018 meetings with tallymen from the Nemaska and Waskaganish communities, the tallymen were concerned by the project's impacts on the moose and continuity of hunting, considering the project entails the loss of valued moose hunting grounds.</p>	
132	CEAA		Vol. 1 Sections 7.6.5.3 and 10.7.1.4	<p><b>Current use of Aboriginal peoples — Traditional use of caribou and cumulative effects</b></p> <p>According to the guidelines (10.1.3), the Proponent must document "[translation] the effects of any change the project may cause in the environment, relating to Aboriginal peoples, on sanitary and socio-economic conditions, on physical and cultural heritage, and the current use of lands and resources for traditional purposes [...]." In addition, indigenous groups and First Nations have been identified as a source of information to be consulted, in order to document the Environmental Impact Statement (EIS) with respect to species at risk and species of conservation concern.</p> <p>On page 7-172 of the EIS, the Proponent states that in the operating phase, the increased noise and human presence at the mining site will become more intense and continuous on a daily basis. This will be a source of disturbance for the wildlife in this area. These factors will limit the use of the area in the vicinity of the mine.</p> <p>The Proponent notes that the scientific literature finds a correlation between noise and animal avoidance (caribou) as an adaptation measure. It adds that "[translation] the information available indicates that some woodland caribou may have frequented the southern end of the study area in the spring only, at a distance of over 8 km from the centre of the proposed mine. Migratory caribou mainly frequented the northern part of the study area, over 25 km from the centre of the proposed mine, and only at winter time. Overall, most of the time, the sound level produced by mining activities will, in the worst-case scenario, be masked by the residual ambient noise and will definitely not exceed the 5 km zone of influence for woodland caribou."</p> <p>The Proponent then documents the known effects of noise on caribou. On page 7-173 of the EIS, it adds that "[translation] increased traffic will be generated by the mining operations, namely from employee travel (290 workers), the provision of supplies to the mine [...] and the shipment of transformed products. The main access road will be the Nemiscau-Eastmain-1 road. Approximately 580 vehicles</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Provide a picture of past, current and expected use of caribou (woodland and migratory) in the traplines (Eastmain: RE1; Nemaska: R16 and R19; Waskaganish: R10). Indicate the approximate annual harvest rates over the last several decades and use temporal boundaries recommended by the Cree users of this land.</li> <li>B) Record Cree knowledge about caribou (woodland and migratory) presence in the area related to recent land development. The Proponent must solicit Cree knowledge and the experience of the Nemaska community, in order to determine whether the community has already observed behavioural changes (for example, avoidance) among caribou related to the Whabouchi mining project that may influence harvesting.</li> <li>C) Reconsider follow-up program on the use of land for traditional purposes (see Question 123) considering documentation gathered on average annual harvest rates for woodland and migratory caribou</li> <li>D) Specify how concerns expressed by the Nemaska and Waskaganish communities about caribou in the minutes of meetings held in the fall of 2018 will be addressed when determining mitigation measures for this species.</li> </ul> <p>In its response, the Proponent must consider the definition of the term "current use", as defined in the following Agency document: <i>Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under CEAA 2012</i>. "Current use" includes active use by Aboriginal peoples at the time of the environmental assessment and uses that are likely to occur in a reasonably foreseeable future provided that they have continuity with traditional practices, traditions or customs. The Proponent must also consider uses that may have ceased due to external factors, if they can reasonably be expected to resume once conditions change.</p>

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				<p>[...] may access the mine site each week. For a round trip, this represents traffic equivalent to approximately 1,160 trips on the Nemiscau-Eastmain-1 road, or an average of 166 trips per day." The Proponent then indicates that caribou avoid busy roads, which reduces the risk of collision. On page 7-133 of the EIS, it mentions that "[translation] the noise produced by the project should hover around the threshold for this faunal group (mammals). There will therefore be no impact on them in the vicinity of the project."</p> <p>On page 7-145 of the EIS, the Proponent indicates that legal and illegal hunting could have contributed to the decline of woodland caribou. On page 10-18, the Proponent discusses the ban on sports hunting of woodland and migratory caribou by Jamesians. On page 7-155, it specifies that under the Paix des Braves agreement, Cree communities may continue to harvest caribou on the land. In Section 10.7.1.4, which is about cumulative effects, it adds that "[translation] subsistence hunting by Cree communities is still permitted and involves the possible removal of woodland caribou."</p> <p>According to the minutes from the fall 2018 meetings with tallymen from the Nemaska and Waskaganish communities, tallymen hunt caribou on their traplines (R16 and R10 traplines, respectively). The minutes also note a concern from the two communities about the populations of caribou and moose that frequent the R10, R16 and R19 traplines, as the caribou is a species at risk of significant importance to Cree communities. However, the Proponent has not documented this issue further and has not provided a complete picture on the use of caribou for traditional purposes. Only Map 8-4 shows valued caribou hunting grounds in the R16 trapline. The EIS does not provide information on the number of animals harvested, and by how many users, or the time of year this hunting takes place. Based on the information provided, it is not possible to determine whether hunting or harvest rates have changed over time and whether they will be impacted by the project.</p> <p>In several parts of the EIS, the Proponent appears to base this solely on the fact that telemetric surveys indicate a low presence of caribou in the area. However, the Waskaganish and Nemaska communities have confirmed that they hunt this species in the vicinity of the proposed mine site. The information is fragmentary and does not show past, present or future caribou use (woodland and migratory). Furthermore, it does not include Cree knowledge, which could have strengthened the analysis of this species at risk.</p> <p>Finally, the Proponent has not proposed any form of caribou monitoring or follow-up program (woodland and migratory), since it considers the project's impacts on this matter to be low and unimportant.</p>	

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				<p>As part of its assessment of the project's impacts on the Aboriginal and treaty rights of Cree communities, the Agency will seek to assess how the project could impact land users' ability to use the resources and depend on them, including in terms of means, diversity, quantity and availability of resources and habitat, in areas of cultural significance. The Agency pays special attention to possible inequities of the impacts on the ability of future Cree generations to harvest caribou. With the information contained in this impact study, the Agency is unable to determine the level of severity of the impacts on their rights with respect to these factors.</p>	
133	CEAA		Vol. 1 Sections 8.3.6.1 and 14.1.3	<p><b>Current use of Aboriginal peoples — Pressure on valued hunting and fishing resources</b></p> <p>In Section 8.3.6.1 of the Environmental Impact Statement (EIS), the Proponent identifies the following mitigation measure for the three phases of the project, in order to reduce pressure on wildlife resources harvested by the Cree: "Prohibition of hunting weapons at the mine site and at the workers' camp."</p> <p>It says on page 8-57 of the EIS that "[translation] non-Aboriginal workers at the mine will be educated about the traditional activities of Cree land users and the role of tallymen as managers of the land and resources." It also says that all hunting weapons will be prohibited at the mine site and workers' camp.</p> <p>On page 4-10 of the EIS, the Proponent notes that "[translation] the presence of many non-Aboriginal workers at the mine also makes the tallymen of the RE1, R16 and R19 traplines wish for some control to be exercised on the workers' hunting and fishing activities, such as through the establishment of a control structure similar to the one at Weh-Sees Indohoun, developed under Hydro-Québec projects (for example, during the construction of the Eastmain-1 and Eastmain-1-A/Sarcelle/Rupert hydroelectric projects) and managed since 2015 by the Weh-Sees Indohoun Sub-Committee and created by the Hunting, Fishing and Trapping Coordinating Committee."</p> <p>In the minutes of meetings with Waskaganish and Nemaska tallymen in the fall of 2018, users of Nemaska land reported that theft and vandalism had been observed at the Cree camps related to recent development projects.</p> <p>On page 10-47 of the EIS, the Proponent says that "[translation] no increased fishing pressure is expected, since fishing activities will be strictly prohibited."</p> <p>In Section 14.1.3, the Proponent specifies the procedure it plans to implement to manage complaints from the population.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Assess the opportunity to create, in cooperation with the tallymen of the RE1, R10, R16 and R19 traplines, a dispute resolution protocol or mechanism in the event of problems related to coordinating the use of the land and resources by mine workers. The protocol or mechanism may also enable Cree land users to report theft or other problems they observe. The protocol or mechanism could be assigned to one of the committees created for the project.</li> <li>B) Specify whether complaints from Cree land users can be directly referred to a liaison officer who would be able to address them directly or whether one of the follow-up committees created for the project will be responsible for specifically responding to complaints from Cree land users.</li> <li>C) Assess, in collaboration with other active or soon-to-be active companies or proponents in this territory (Nemaska Lithium and Galaxy Lithium, for example), the possibility of soliciting the relevant Cree and provincial authorities about an opportunity to establish a new special hunting and fishing zone, like the special Weh-Sees Indohoun zone that was created during Hydro-Québec projects, where a similar number of non-Aboriginal workers were involved in the same territory.</li> <li>D) Specify the concrete measures it will use to prohibit its employees from fishing and demonstrate its effectiveness.</li> <li>E) Specify whether it plans to prohibit its employees from hunting and trapping and how. If not, provide justification.</li> <li>F) Assess the possibility of prohibiting fishing and trapping equipment at the mine site and workers' camp.</li> </ul>

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				<p>During consultations with the Eastmain and Nemaska communities, the Agency noted their concern about the massive arrival of non-Aboriginal workers and its impacts on their experience on the land.</p>	
134	CEAA		<p>Vol. 1 Section 8.3.6.1, 8.4.6.1, 8.4.8</p>	<p><b>Current use of Aboriginal peoples — Impacts of road transportation and proposed mitigation measures</b></p> <p>The Proponent mainly assesses the impact of road traffic on Cree users of RE1 (Eastmain) and R19 (Nemaska) traplines with regard to the impacts of road user safety, the risk of road accidents and road-related nuisances. In two different sections of the Environmental Impact Statement (EIS), the Proponent proposes the following mitigation measures:</p> <ul style="list-style-type: none"> <li>● Educating workers and carriers about the need to comply with road safety rules and take any necessary steps with the relevant authorities to ensure the safety of Eastmain-1 (EM1) road users (p. 9-37 of the EIS);</li> <li>● To the extent possible, distribute heavy traffic throughout the day and week to avoid intensive periods of this type of traffic (p. 8-75 of the EIS).</li> </ul> <p>On page 8-77 of the EIS, the Proponent describes a follow-up program in the <i>community well-being and human health</i> section, specifying that “[translation] with respect to the impacts of increased heavy traffic on the EM1 road, the proposed follow-up is based on meetings with the tallymen of the RE1 and R19 traplines, as well as Eastmain and Nemaska community organizations. The purpose of the meetings was to collect data and information about the following topics on the EM1 road: the level of traffic, traffic conditions and the sense of security.”</p> <p>On page 7-136 of the EIS, the Proponent indicates that it has planned mitigation measures for the construction and operation phases: “[translation] With respect to impacts related to disturbance and risks of collision, mitigation measures L1 to L4, M1 to M3, M6, M9, M10, and T1 to T9 will be applied.”</p> <p>On page 5-22 of the EIS, the Proponent describes mitigation measure T1 for the construction and operation phases as follows: “Vehicle traffic will have to travel at a reduced speed in order to limit noise, vibration and dust emissions, as well as for safety reasons.”</p> <p>In the minutes of meetings held with Waskaganish and Nemaska tallymen in the fall of 2018, Nemaska land users said they expected an increase in road traffic in the summer and during goose and moose hunting periods, and proposed various road-traffic mitigation measures:</p> <ul style="list-style-type: none"> <li>● The use of CB radios in all trucks to enable road users to communicate with each other;</li> <li>● The reduction of vehicle speed;</li> </ul>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Consult the Eastmain, Nemaska and Waskaganish tallymen in order to enquire about land users’ travel movement patterns on roads during hunting goose and moose hunting periods, for example, the time of day they normally leave camp or the village to hunt, and assess whether it would be possible to modify transportation activities (ore, supplies, hazardous materials, etc.) in order to reduce impacts on the hunting periods. In the event that transportation activities can be changed, explain the actions/changes that will be made. Otherwise, explain the reasons for this impossibility.</li> <li>B) Identify measures that will be implemented during the weeks for goose hunting in the spring (two weeks) and moose in the fall (two weeks) that would mitigate the effects of road transport on the activities of the users of the territory.</li> <li>C) Specify and justify whether mitigation measure T1, which states that “[translation] vehicle traffic will have to travel at a reduced speed in order to limit noise, vibration and dust emissions as well as for safety reasons”, applies only to truck movement on the project site or whether it also applies to truck movement on the Nemiscau-Eastmain-1 and Route du Nord roads, and specify what is meant by “reduced speed” and whether a formal speed limit can be established for this purpose.</li> <li>D) Assess the possibility of adding, to the community well-being and human health monitoring program, a follow-up of the impacts of increased heavy traffic on the Nemiscau-Eastmain-1 road on the quality of camp experience and land access during annual goose and moose hunting trips. In the event that this addition to the program is done, provide details of this component. Otherwise, explain the reasons for this impossibility.</li> <li>E) Assess the effects on traditional activities of Eastmain and Waskaganish communities on the James Bay Road related to the project or the multiple transportation activities.</li> </ul>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
				<ul style="list-style-type: none"> <li>The installation of signs to identify snowmobile crossing areas and entrances to Cree camps on either side of the EM1 and Route du Nord roads; and</li> <li>The education of truck drivers on how to be courteous and allow other road users to pass trucks.</li> </ul> <p>The users also appear to be concerned about access to the land and their camps. Some have even expressed concern about the fact that road users associated with the mine will not necessarily stop to allow them to hunt moose. Some are also concerned about increased the risk of collisions between vehicles and moose, considering their large presence between kilometres 15 and 40 on the EM1 road (harvest rates).</p> <p>In its analysis of the project's impacts on Aboriginal and treaty rights of Cree communities, the Agency will assess whether land access is altered or compromised, and how the project could impact the quality of experience of the land. The Agency will pay special attention to access conditions to the land of the nine Nemaska families (R19) who use camps that are accessible on either side of the EM1 road, especially during periods of high road traffic (for example, during moose and goose hunting periods).</p> <p>During Agency consultations with the Cree communities, the Nemaska community expressed concern about increased noise and vibrations, which may force families to change hunting grounds. The Eastmain community was concerned about the project's impacts on increased road traffic on James Bay Road.</p>	
<b>Description of the effects on the components affecting Indigenous communities – Human health and community well-being</b>					
135	HC	10.1.3 9.1 9.1.1 10.1 10.1.1	Supplement to the EIS for the CEAA	<p><b>Health of Indigenous peoples – Contaminants of concern for human health</b></p> <p>In the Supplement to the environmental impact statement (p. 16), the Proponent presents the sources of contaminants, without, however, specifically identifying them, and points out “[translation] that potential contamination may be the result of an accumulation over a long period of time (e.g. an accumulation of dust on plants during operations) or be the result of an incident/accident (e.g. a spill of reagent)”.</p>	The Proponent must provide a complete list of all contaminants of potential concern and present them by sources (e.g. dust, mining effluent).
136	HC	10.1.3 9.1 9.1.1 10.1 10.1.1	Vol. 1 p. 4-5 p. 6-55 p. 8-69  Supplement to the EIS for the CEAA	<p><b>Health of Indigenous peoples – Risks of contamination of traditional food and assessment of the toxicological risks</b></p> <p>In section 8.4.5.1 of the Environmental Impact Statement (EIS), the Proponent indicates: “[translation] For many members of the Eastmain and Nemaska communities, there is a high level of sensitivity concerning the environmental hazards raised by this project. There are concerns about the possible contamination of the lakes and watercourses surrounding the mine and its effects on resources (fish, wildlife, plants and other natural resources) used for traditional</p>	The Proponent must assess whether the mine activities are likely to contaminate traditional food (in the short, medium and long term) while not relying solely on compliance with environmental regulations and on the fact that “area users only sporadically use the project area”. More specifically, assess whether, among the contaminants (particularly those present in the ore and waste rock) that would be released (into water, air, soil, etc.) by the activities of the project, certain ones could accumulate in traditional food and pose an unacceptable risk to health in the short, medium and long term.

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				<p>purposes, as well as its impact on human health. Some people are also worried about these potential effects on future generations.” In the Supplement to the EIS (p. 16), the Proponent adds: “[translation] [...] the dust generated by ore truck traffic may be deposited on plants consumed as traditional foods. The water in contact with mine tailings (waste rock or concentrator tailings) could also have impacts on surface water bodies and contaminate the aquatic species consumed by Indigenous peoples.”</p> <p>Despite these concerns, the Proponent did not assess whether the mine activities are likely to contaminate traditional foods (in the short, medium and long term). In order to justify its decision that conducting an assessment of the toxicological risks related to potential contamination of traditional foods is not required, the Proponent states: “[translation] [...] the site where the mining infrastructure will be located is used sporadically. In addition, it is not anticipated that particulate levels will exceed the criteria established by the authorities. Consequently, the risk of contamination of food harvested in nature is very low, particularly since the harvesting of traditional foods in this area is carried out only occasionally. No effects are anticipated on human health in connection with the consumption of traditional food near the mine.” (p. 8-69 of the EIS)</p> <p>The potential health risks associated with high concentrations of chemical substances present in traditional foods are generally addressed in an EIS by means of an assessment of the risks to human health associated with the consumption of traditional foods. This assessment makes it possible to:</p> <ul style="list-style-type: none"> <li>- Estimate the exposure of persons related to the consumption of traditional foods and determine whether there are potential risks associated with this exposure;</li> <li>- Verify whether the ingestion of contaminants in foods can constitute a route of significant exposure, in particular when they are likely to bioaccumulate or bioamplify in the food chain, or when the consumption of traditional foods represents an important part of the diet of an exposed person;</li> <li>- Support the conclusions of an environmental assessment and stress the necessity and importance of implementing mitigation measures in order to reduce or eliminate potential risks to human health.</li> </ul> <p>In the context of this project, such an assessment would make it possible to:</p> <ol style="list-style-type: none"> <li>1) Address the concerns expressed by the population about the potential contamination of traditional food. These concerns can sometimes be sufficient to trigger the need to conduct a risk assessment.</li> <li>2) Help the Proponent to communicate the risks to the population so that the communities do not unnecessarily avoid traditional foods.</li> <li>3) Determine whether a slight increase in concentrations of contaminants in the environment could result in an unacceptable risk, even if the Proponent complies with the discharge standards for contaminants in water, air, etc.</li> </ol>	<p>The Proponent will have to determine the initial level of contaminants of potential concern for traditional food around the project site (in close collaboration with the territory's users with respect to the selection of resources analyzed).</p> <p><b>Note:</b> It is very important to take into account the environmental fate and toxicological characteristics (e.g. toxicity, bioaccumulation potential, etc.) of each of these contaminants. This analysis must be entrusted to professionals qualified in the assessment of health effects (e.g. toxicologists). This assessment will make it possible to assess more specifically the potential risks of contamination of traditional food.</p> <p>The following documents may be useful in conducting such an analysis:</p> <ul style="list-style-type: none"> <li>- <i>Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods</i> (Health Canada, 2018)</li> <li>- <i>Lignes directrices pour la réalisation des évaluations du risque toxicologique d'origine environnementale au Québec</i> [Guidelines for conducting environmental toxicology risk assessments in Quebec] (INSPQ, 2012)</li> </ul>



Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
				<p>4) Identify key contaminants which may require specific monitoring (e.g. certain contaminants in certain types of traditional foods) in order to protect health and verify whether the planned mitigation measures are effective.</p> <p>5) Verify whether an accumulation of contaminants generated by the project over a certain period of time could contaminate traditional food.</p>	
137	HC	10.1.3	<p>Vol. 1 p. 4-9 p. 8-45 p. 8-53</p> <p>Supplement to the EIS for the CEAA (p. 20)</p>	<p><b>Health of Indigenous peoples – Effects of road transport on air quality and noise</b></p> <p>Many Cree camps are located on the roads that would be used, particularly by the trucks transporting ore (p. 8-53).</p> <p>The effect of transport offsite appears to be a major concern for some Cree (p. 4-9). The Proponent notes that “[translation] In terms of the human environment, the main constraint identified is the increase in traffic” (Supplement to the EIS, p. 20).</p> <p>However, the Proponent does not appear to have assessed the potential effects of the project on air quality and noise related to transport off the mine site, only the increase in the risks of accidents on the road network appears to have been assessed. Based on this assessment, the Proponent concluded that there will be no significant impact on the use of lands: “[translation] Concerning the additional traffic related to the project on the Nemiscau-Eastmain-1 road, CEC will make workers and carriers aware of the need to comply with safety rules and regulations and, if necessary, take measures with the relevant authorities to ensure the safety of users of the Nemiscau-Eastmain-1 road. Hence, there will be no significant effects on the current use of lands and resources for traditional purposes.” (p. 8-45)</p> <p>In addition to the increase in the risks of accidents, transport offsite related to the construction and operation of the mine is likely to have effects on air quality and the acoustic environment.</p>	<p>The Proponent must:</p> <p>A) Assess the potential effects (acoustic environment and air quality) on the health of Indigenous peoples related to the increase in traffic on the road network at an appropriate distance from the project (offsite and during construction and operation).</p> <p>B) In the event that effects are anticipated, propose additional mitigation measures for these aspects in order to protect the health of area users (e.g. speed limits, restriction/ban on the use of engine brakes, restrictions on transport at certain periods of the year, etc.).</p> <p>C) Detail the measures to which the Proponent currently makes reference (“take measures with the relevant authorities to ensure the safety of users”).</p>
138	CEAA		<p>Supplement to the EIA for the MDDELCC (Appendix QC-13)</p>	<p><b>Aboriginal health and well-being — Impacts of road transportation and proposed mitigation measures</b></p> <p>In the traffic study presented in the Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques (MELCC) response document (Appendix QC-13), the Proponent presents daily traffic data for Route du Nord and Route 109 (James Bay Road). However, it does not present data for the Eastmain 1 (EM1) road, which makes it difficult to determine increased road traffic caused by the project on that road.</p>	<p>The Proponent must determine the increase in road traffic caused by the project on the Eastmain 1 road. Present, if necessary, current traffic data before the project begins.</p>
139	CEAA		<p>Vol. 1 Section 8.4.6.1</p>	<p><b>Aboriginal health and well-being – Mitigation measure</b></p> <p>In Section 8.4.6 of the Environmental Impact Statement, the Proponent identifies as a mitigation measure “[translation] the provision of support to organizations and</p>	<p>The Proponent must:</p> <p>A) Specify which Cree communities it is referring to in the mitigation measure about providing: “Support to organizations and stakeholders in Cree</p>

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				stakeholders from relevant Cree communities, including the Cree Board of Health and Social Services of James Bay (CBHSSJB), for social issues related to alcohol and drug use, debt, financial planning and family relations.”	communities, including the CBHSSJB, social issues related to alcohol and drug use, debt and financial planning and family relationships.”  B) Specify the nature of the support it will provide to organizations and stakeholders, and how it will be provided.
<b>Description of effects on components impacting Aboriginal communities – Socio-economic conditions</b>					
140	CEAA		Vol. 1 p. 8–34	<p><b>Aboriginal socio-economic conditions – The project’s socio-economic impacts on the Cree</b></p> <p>In Section 10.1.3 of the guidelines, the Agency asks the Proponent to document the impacts of environmental changes on Aboriginal peoples, such as sanitary and socio-economic conditions, etc.</p> <p>According to page 8-34 of the Environmental Impact Statement (EIS), “[translation] over all, the unemployment rate of the Cree population was 14.7% (in 2011).” The Proponent has also noted that more Cree men than women are unemployed, and the unemployment rate for 2011 was about 9% in the Eastmain community and 3% in the Nemaska community.</p> <p>On page 8-39 of the EIS, the Proponent notes the population growth in the Eeyou Istchee-James Bay Territory, which should increase by 30% between 2016 and 2036. It also indicates that some of the 280 new jobs created by the operation phase “[translation] could be filled by members of the Cree communities.”</p> <p>The minutes of meetings held in the fall of 2018 with the Waskaganish community note that establishing an accessible daycare for Cree workers would promote the employment of Cree women, especially single mothers.</p> <p>As part of its assessment of the project’s impacts on the Aboriginal and treaty rights of Cree communities, the Agency will seek to assess the equity of the positive and negative impacts of the project among the different subgroups of the Aboriginal population. With the information presented in the current impact study, the Agency is unable to comment on the level of severity of impacts on rights with respect to these factors.</p>	<p>The Proponent must:</p> <p>A) Specify the number of jobs reserved for members of each of the Cree communities and whether it plans to reserve some of the jobs for Cree women.</p> <p>B) Propose mitigation measures for the purpose of promoting the employment of Cree women in traditionally male roles, which are often the best paid. Otherwise, provide justification for the absence of such measures. The Proponent should consult the Cree Women of Eeyou Istchee Association, who have expertise in this area, or specify that it has already consulted this association.</p> <p>C) Propose mitigation measures for the purpose of promoting family-work life balance for Cree employees with children or elderly dependents. Provide justification in the absence of mitigation measures.</p> <p>A) Assess the positive and negative impacts of the project on the different subgroups of the Aboriginal population from the Eastmain, Nemaska and Waskaganish communities (namely women, youth and elders) and propose appropriate mitigation measures. Otherwise, provide justification for the absence of such measures. Assess the possibility of conducting a follow-up on these subgroups under the community well-being and human health monitoring program (section 8.4.8 of the EIS). In the event that this addition to the program is done, provide details of this component. Otherwise, explain the reasons for this impossibility.</p>
141	CEAA		Vol. 1 Section 8–44	<p><b>Aboriginal socio-economic conditions – Follow-up</b></p> <p>In section 10.1.3 of the guidelines, the Agency asks the Proponent to document the impacts on Aboriginal peoples of environmental changes, and sanitary and socio-economic conditions, etc.</p>	<p>The Proponent must:</p> <p>A) Assess the possibility of adding Waskaganish to the monitoring program for socio-economic conditions, considering it is a very populous Cree community that could provide the Proponent with services or employees. In the event that this addition to the program is done, provide details of this component. Otherwise, explain the reasons for this impossibility.</p>

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				<p>On page 8-43 of the Environmental Impact Statement (EIS), the Proponent suggests a monitoring program for socio-economic conditions (training, employment and economy) based on documentary research and meetings with Cree organizations about training programs, the number of jobs at the mine, the socio-economic profile of workers, the value of contracts with Cree companies, labour force data, etc.</p> <p>Follow-up reports will be presented to the exchange and consultation committee six times in the life of the mine, as well as following the closure of the mine.</p> <p>As read in the EIS, this measure provides for a follow-up only with Eastmain and Nemaska communities.</p>	<p>B) Specify the Cree companies that have already been identified to provide mine services and present them based, on the project's activities and phases, where applicable.</p>
<b>Description of effects on components affecting Aboriginal communities – Archaeological heritage</b>					
142	CEAA		Vol. 1, sections 8.5.4 and 8.5.7.1	<p><b>Archaeological heritage – Areas of archaeological potential</b></p> <p>In section 8.5.4 of the Environmental Impact Statement (EIS), the knowledge of the Cree communities does not appear to have been documented or taken into account in the methodology used to develop the archaeological potential study.</p> <p>On page 8-80 of the EIS, the Proponent states that “[translation] a dozen archaeological sites are currently known within the study area, some of which are now submerged by Eastmain 1 reservoir. A total of 21 areas of archaeological potential have been identified in the study area (see Map 8-4). These locations correspond to areas most likely to present remains showcasing human presence, from prehistory to the 20th century. It is recommended that an archaeological field inventory be conducted in areas likely to be directly impacted by the project.”</p> <p>In section 3.4.2 of the Guidelines, “Sub-section 19(3) of the <i>CEAA, 2012</i> states that ‘community knowledge and Aboriginal traditional knowledge may be considered in conducting an EA’. For the purposes of these guidelines, community knowledge and Aboriginal traditional knowledge should be understood to refer to knowledge acquired and accumulated by a community or an Aboriginal community, through generations of living in close contact with nature. The Proponent will incorporate into the EIS the community and Aboriginal traditional knowledge to which it has access or that is acquired through Aboriginal engagement activities [...]”</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Document the knowledge of the Cree communities, by consulting for example the elders and/or land users and/or the archaeological experts of the Cree Nation Government, in order to validate and/or improve the areas of archaeological potential that must be inventoried before construction work is carried out. This information could be compiled in a document annexed to the current potential archaeological study.</li> <li>B) Propose mitigation measures following these consultations.</li> <li>C) Indicate how it plans to notify the RE1 tallyman and the Cree Nation Government's culture and language department in the event of the discovery of an artifact.</li> </ul> <p><b>RECOMMENDATION:</b> The Proponent could encourage the participation of Crees wishing to do so: in the archaeological inventory work (or to be trained to do so if required), or in the inventory activities as observers.</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
<b>Description of effects on components affecting Aboriginal communities – Other</b>					
143	CEAA	9.2	Vol. 1, sections 4-20, 4.2.6.2 and 4.4	<p><b>Aboriginal component (other) - Committees to be set up</b></p> <p>In Section 4.5 of the Environmental Impact Statement (EIS), the Proponent proposes the creation of a “liaison/implementation committee” to ensure clear communication between the Proponent (CEC) and the various Eastmain stakeholders, as well as the establishment of a long-term relationship by developing a framework through which communication and cooperation can take place. This committee would also promote the cooperation and involvement of the Crees with CEC in environmental monitoring during all phases of the project. In Section 4.5.1 of the EIS, the Proponent states that, as required by the Quebec <i>Mining Act</i>, it will form a “monitoring committee” composed of “[...] a representative from an aboriginal community consulted by the government regarding the project”.</p> <p>On page 8-69 of the EIS, the Proponent states that this committee would be composed of members of the Eastmain and Nemaska communities and mine personnel and should enable, through periodic meetings, to discuss and propose solutions to the various issues related to the mine’s activities. On page 8-75, the Proponent states that “This committee could include land users, members of the Eastmain community, mine workers, Eastmain service representatives or the Band Council, etc.”. The use of the verb “could” appears uncertain and there is no longer any reference to the presence of Nemaska members in this section.</p>	<p>The Proponent must:</p> <p>A) Specify how it plans to promote the active participation of the Eastmain, Nemaska and Waskaganish communities in the exchange and consultation committee. Indicate whether it plans to include the following stakeholders: tallymen (RE1, R16 and R19, R10) and their families, community members, representatives of environmental and/or administrative services and/or the Band Council chosen by the Cree communities.</p> <p>B) Specify whether the exchange and consultation committee is separate from the liaison/implementation committee and whether the liaison/implementation committee is separate from the monitoring committee established under the <i>Mining Act</i>.</p> <p>C) Specify how it will promote the active participation of Nemaska and Waskaganish political and/or administrative representatives as well as R10 (Waskaganish), R16, and R19 (Nemaska) tallymen in the liaison/implementation committee so that they remain informed of the project.</p> <p>Produce a list of all the committees to be created as part of the project, specifying for each of them: their mandate and duration, the frequency of their meetings, their members and their duration.</p>
144	CEAA	9.2	Vol. 1, sections 4-20, 4.2.6.2 and 4.4	<p><b>Aboriginal component (other) - Role of the liaison officer</b></p> <p>The Proponent adds that it has hired a liaison officer from the Eastmain community to act as a liaison between the Proponent, its employees and members of the Eastmain community.</p>	<p>The Proponent must:</p> <p>A) Clarify the role and tasks of the liaison officer for each project phase.</p> <p>B) Specify whether the liaison officer will play a role in one or more committees.</p> <p>C) Indicate whether the liaison officer is fluent in the Nemaska and Waskaganish Cree dialects.</p>
145	CEAA	9.2	Vol. 1, sections 4-20, 4.2.6.2 and 4.4	<p><b>Aboriginal component (other) - Communication plan</b></p> <p>In the minutes of the meetings held between the Nemaska tallymen and the Proponent in the fall of 2018, the R19 tallyman indicated that he was concerned that communications with his community would not be maintained during the life of the project and that they were crucial to ensure that the measures put in place were effective.</p>	<p>The Proponent must:</p> <p>A) Specify how it intends to foster an ongoing dialogue with the population and land users by developing, in conjunction with the RE1 (Eastmain), R19 and R16 (Nemaska) and R10 (Waskaganish) tallymen and their respective band councils, a comprehensive communication plan adapted to each community and by indicating the type of information that will be shared, how and how often.</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
				<p>On page 4-9 of the Environmental Impact Statement (EIS), the Nemaska R19 tallyman expressed concern for user safety during operations, stating that he wanted to know the planned blasting and drilling schedules.</p> <p>On page 8-69 of the EIS, the Proponent states that it plans to file the environmental monitoring studies with the Eastmain and Nemaska environmental services.</p> <p>The information in the EIS does not enable the Agency to identify who will be informed of the schedule of work and environmental monitoring, how this will be done and how often. Similarly, it is not possible to determine whether the liaison officer will play a role in these communications.</p> <p>In Section 8.3.6.1 of the EIS, the Proponent proposes two mitigation measures to reduce the effects on current use of lands and resources for traditional purposes, including informing Cree users of the schedule of construction, operation and maintenance activities, and communicating environmental monitoring results to Cree land users and community members.</p> <p>During the Agency's consultations with Waskaganish, the community repeatedly expressed concern about water quality and environmental monitoring related to the final mining effluent flowing into the community's R10 trapline. In particular, it is concerned about the effects of mine effluent on fish on trapline R10 and about water quality following the closure of the mine. During the Agency's consultations, the Nemaska community expressed concern about the loss of watercourses and water bodies and the effects of the final mining effluent.</p>	<p>B) Specify the people, including the Cree community to which they belong, the Proponent refers to when using the terms "Cree users" in its mitigation measures.</p> <p>C) Specify whether it plans to file the environmental monitoring studies with the Waskaganish environmental services.</p>
146	CEAA		Vol. 1, sections 4.2.6.1 and 4-9, 4-10	<p><b>Aboriginal component (other) - Environmental concerns raised by Aboriginal groups</b></p> <p>According to the guidelines, the Environmental Impact Statement (EIS) must contain a summary table containing "comments from Aboriginal groups and individuals and responses" (p. 44).</p> <p>On page 4-21 of the EIS (revised Chapter 4), the Proponent reports on the mitigation measures it has implemented as a result of its consultations. However, most of these are economic in nature and do not specifically address the majority of the Cree public's questions about the project's environmental effects.</p> <p>In the EIS, where Cree public concerns are discussed (Table 4-3), and in minutes of the meetings held with the Nemaska and Waskaganish tallymen in the fall of 2018, the Proponent presents the various concerns expressed, but does not specify the Proponent's response to each of these.</p>	<p>The Proponent must:</p> <p>A) Present its responses to the concerns expressed by the Cree public, which were identified in the EIS, including whether or not they were incorporated into the project design and why, or how they resulted in a commitment by the Proponent to implement mitigation measures, if any.</p> <p>B) Present a table containing the mitigation measures identified by the Nemaska and Waskaganish tallymen in the minutes of the fall 2018 meetings and provide the response given to each of these suggestions, justifying why they will or will not be considered in the project.</p>

Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
				<p>The minutes of the meetings held in the fall of 2018 with the tallymen present several suggestions for concrete mitigation measures identified by land users. However, there is no mention of the Proponent's responses to the suggested mitigation measures. No justification is presented for whether or not to take into account the mitigation measures proposed by the Cree land users.</p> <p>As part of its assessment of the project's impacts on the Cree communities' Aboriginal and treaty rights, the Agency will seek to assess the degree of community confidence in the effectiveness of the Proponent's mitigation measures, paying particular attention to the level of involvement of the communities in defining these measures. The information presented in the current impact study makes it difficult for the Agency to determine the level of severity of impacts to rights with respect to these factors.</p>	
147	CEAA		Vol. 1, chapters 6 and 7	<p><b>Aboriginal component (other) - Cree community participation in environmental follow-up and monitoring activities</b></p> <p>On page 8-60 of the Environmental Impact Statement (EIS), the Proponent proposes, as a mitigation measure, to employ the RE1 tallyman's family members for environmental monitoring activities, whenever possible.</p> <p>Section 4.2.6.1 of the EIS states that the cumulative effects of these projects that alter the land have an impact on the Cree way of life and identity, and that there is high Cree youth unemployment in the Eastmain and Nemaska communities.</p> <p>During the Agency's public consultation, the non-profit organization La Société pour vaincre la pollution (SVP) produced a brief recommending that the SVP request the Agency, as part of the authorization of the Rose mine project, to propose an independent monitoring regime adapted to Cree land and to inform the Nemaska Cree community of the concept of independent environmental monitoring of this mine in order to determine their interest in participating in such an initiative. The Agency could also assess the feasibility of implementing a citizen monitoring program for the Rose mine project. It should be noted that the mine is located on Category III lands, which are public lands on which the Crees have certain hunting, fishing and trapping rights. The Agency will be able to evaluate the concept of enrolling Cree hunters and trappers and other users of this area to conduct mine monitoring. The SVP also expressed concern about the dissemination and access to the Proponent's environmental monitoring reports throughout the life of the project.</p> <p>In the Agency's consultations with Waskaganish, the community expressed concern about water quality and environmental monitoring related to the final mining effluent flowing into the community's R10 trapline.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Specify how it plans to encourage the participation of RE1, R16, R19 and R10 tallymen and/or the Eastmain, Nemaska and Waskaganish environmental services to carry out environmental monitoring activities.</li> <li>B) Specify how it plans to make its environmental monitoring reports (biophysical components) available to the Cree and non-Aboriginal public. The Proponent must evaluate the possibility of publishing its monitoring reports on its website and/or submitting them directly to the environmental services of the Cree communities.</li> </ul> <p>RECOMMENDATION:</p> <p>The Proponent should assess the opportunity to create partnerships with schools in Cree communities in order to introduce youth to environmental sciences through the project's environmental monitoring.</p> <p>The Proponent should identify one or more citizen organizations that may be interested in participating in environmental monitoring and assess the opportunity to offer them a role in this activity in order to strengthen public confidence in the process.</p>



Ref. No.	Author	Guidelines Ref.	EIS Ref.	Context and Rationale	Specific Question / Information Request
148	CEAA		Vol. 1, sections 11.2.5, 11.3, 14.4.7 and 14.4.11	<p><b>Aboriginal component (other) - Emergency response plan</b></p> <p>In Section 11.3 of the Environmental Impact Statement (EIS) concerning the emergency response plan, the Proponent states that, considering the relative isolation of mine infrastructure planned on the land, “[translation] mutual aid agreements should be developed with other firms in the sector and with the Nemaska Cree community.”</p> <p>During consultations with the Agency, Waskaganish expressed concern about water quality at all phases of the project and environmental monitoring related to the final mine effluent flowing into the community’s R10 trapline. The community also indicated that it doubted the Proponent’s ability to contain an accident or malfunction related to the dikes and a possible non-compliant discharge of final mine effluent within 12 hours (information that the Proponent would have provided to the community). It was also concerned about the potential effects of the final mine effluent on the quality of fish caught in the R10 trapline.</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>A) Identify the Cree businesses or organizations in Nemaska that would participate in the emergency response plan.</li> <li>B) Specify how many hours it would take to set up mutual assistance services in the event of an accident or malfunction and specify whether they have already confirmed their availability.</li> <li>C) Specify whether the final emergency response plan can be filed with the Eastmain, Waskaganish and Nemaska band councils no more than six months before the project begins.</li> <li>D) Provide a communication plan in the event of an accident or spill, including notification of tallymen on traplines RE1, R16, R19 and R10, and environmental services in Eastmain, Nemaska and Waskaganish. This communication plan should indicate the communication approach planned for each type of accident and the identification of contacts.</li> </ul>
149	CEAA		Volume 1, Section 3.4	<p><b>Aboriginal component (other) - Potential risks associated with the ore concentration process</b></p> <p>During consultations with the Agency, the Waskaganish and Nemaska communities repeatedly expressed concern about the safety risks associated with processing ore into concentrate. These communities indicated that, as there are few lithium mines and processing plants operating in the country, the Proponent should give preference to very conservative methods of processing.</p>	<p>The Proponent must indicate how it plans to take into account concerns from Cree communities about the safety of the ore concentration process and its possible modification if the current project changes in the future.</p>

#### 4. ADDITIONAL ADVICE OR RECOMMENDATIONS FOR THE ROSE LITHIUM-TANTALUM MINING PROJECT

Ref. No.	Author	EIS Ref.	Context and Rationale	Advice or Recommendation
<b>Alternative means of carrying out the project</b>				
1	MAT	Vol. 1 Section 2.3	<p><b>Alternative means of carrying out the project – Use of the road corridor to Matagami</b></p> <p>The Town of Matagami (the Town) would like the Proponent to consider using the transport corridor to Matagami for shipping the mine’s production and for supplying the mine. The Town of Matagami is connected to the James Bay Road, which is currently undergoing a \$265 million rehabilitation program. According to the Town, this road was designed specifically for the transport of oversized and overweight loads. This particular configuration would allow it to be much safer for users, in addition to requiring less energy per tonne to move the loads because of its flat topography.</p>	In its comparative analyses of the project alternatives for the transport of ore and for supplying the mine, the Agency recommends that the Proponent evaluate the option of the transport corridor to Matagami.
2	MAT	Vol. 1 Section 2.3	<p><b>Alternative means of carrying out the project – Use of the transshipment yard in Matagami</b></p> <p>The Town of Matagami pointed out that it has a transshipment yard that is currently fully operational. This yard was built in the late 1960s by the Société d’énergie de la Baie-James as part of the construction of the La Grande hydroelectric complex. The yard was left vacant for some 15 years before the Town acquired and refurbished it in 2016. Some 250,000 m<sup>2</sup> of developed land and nearly 4 km of railway are available. According to the Town, using this infrastructure for shipping the mine’s production would significantly reduce the environmental impacts compared to any other destination that does not have this kind of infrastructure, since using an existing site would have fewer adverse impacts than building a new site.</p> <p>The Town also pointed out that its transshipment yard would make it possible to use the railway over a maximum distance between the production site and the final processing site, which would reduce greenhouse gas emissions. The configuration of the national railway network would also ensure that the distance from Matagami to the main shipping points would be similar to any other point of origin and that, consequently, the associated costs would not represent a major difference.</p>	In its comparative analysis of the project alternatives for the transport of ore, the Agency recommends that the Proponent evaluate the option of using the transshipment yard in Matagami.

Ref. No.	Author	EIS Ref.	Context and Rationale	Advice or Recommendation
<b>Air quality</b>				
3	HC	Vol. 1 p. 6-96	<p><b>Air quality - Guide for the assessment of noise impacts on health</b></p> <p>In the section on the acoustic environment, the Proponent cites the document: "Health Canada. 2010. <i>Useful Information for Environmental Assessments</i>." 15 p. (WSP, 2019b, p. 6-96)</p>	<p>The Agency recommends that the Proponent consult the guide that Health Canada published in 2017 specifically on the assessment of noise impacts on health: "<i>Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise</i>."</p> <p>This guide is available online (<a href="http://publications.gc.ca/site/eng/9.832514/publication.html">http://publications.gc.ca/site/eng/9.832514/publication.html</a>) and includes information on the effects of changes in noise levels on health, the indicators of these effects and the steps in the approach preferred by Health Canada for assessing the effects of changes in noise levels on health. It also contains a series of suggested mitigation measures.</p>
4	HC	Vol. 1 p. 6-146	<p><b>Air quality – New standards for nitrogen dioxide</b></p> <p>Table 6-58 and the air quality study do not present the new <i>Canadian Ambient Air Quality Standards</i> (CAAQS) for nitrogen dioxide. Available at: <a href="http://airquality-qualitedelair.ccme.ca/en/">http://airquality-qualitedelair.ccme.ca/en/</a></p>	<p>The Agency recommends that the Proponent consult the new <i>Canadian Ambient Air Quality Standards</i> (CAAQS) for nitrogen dioxide which were recently established for 2020 and 2025 (CCME, 2014).</p>
5	HC	Vol. 1 p. 6-45 p. 6-143 p. 8-53	<p><b>Air quality – Air quality standards</b></p> <p>The Proponent indicates on page 6-143: "[translation] This is why air quality standards and criteria were established in order to assess the effects of a project on its receiving environment. <u>Compliance with these standards and criteria therefore makes it possible to ensure a safe environment for human health and for the environment.</u> Moreover, this was a concern raised during the meetings with the Indigenous communities."</p> <p>and:</p> <p>"[translation] In the context of this environmental assessment, the federal regulations establish Canadian Ambient Air Quality Standards ('CAAQS') in the form of objectives under the <i>Canadian Environmental Protection Act, 1999</i>. <u>These air-quality standards and criteria correspond to concentrations with no adverse effect.</u> Published in May 2013, they replace the Canada-wide Standards for Particulate Matter and Ozone (CCME, 2014). These standards, presented in Table 6-58, concern fine particulate matter ('PM<sub>2.5</sub>') and sulphur dioxide ('SO<sub>2</sub>'). The standards for SO<sub>2</sub> were announced on October 3, 2016, and will come into effect in 2020. A phase-in is planned for the CAAQS. In this context, the most restrictive standards were considered." (p. 6-45)</p>	<p>According to Health Canada, the statement "Compliance with these standards and criteria therefore makes it possible to ensure a safe environment for human health and for the environment" is partially erroneous since for some substances, there is no effect threshold (e.g. for fine particulate matter), i.e. there is no "safe" concentration. The Proponent can refer to Appendix 1 of this information request.</p> <p>According to Health Canada, the statement "These air-quality standards and criteria [Canadian Ambient Air Quality Standards] correspond to concentrations with no adverse effect" is also erroneous. Health effects can be observed below the maximum concentrations set out in the <i>Canadian Ambient Air Quality Standards</i>, particularly for fine particulate matter and nitrogen dioxide.</p>
6	HC	Vol. 1 p. 13-6	<p><b>Air quality – Mitigation for air quality</b></p> <p>As a specific mitigation measure for air quality, the Proponent indicates: "[translation] The machinery used must meet the Environment Canada emission standards for on-road and off-road vehicles". (p. 13-6)</p>	<p>The Agency confirms that compliance with Environment and Climate Change Canada's emission standards, as specified in <i>Off-Road Compression-Ignition Engine Emission Regulations</i>, is not a mitigation measure, but rather the law.</p>

Ref. No.	Author	EIS Ref.	Context and Rationale	Advice or Recommendation
7	HC	Vol. 1 p. 5-8	<p><b>Air quality – Reuse or recycling of wood waste</b></p> <p>For mitigation measure D8 (p. 5-8), the Proponent indicates that wood waste and debris from tree clearing can be burned.</p>	Health Canada suggests promoting the reuse or recycling of wood waste (instead of burning it).
8	HC	Vol. 1 p. 5-23	<p><b>Air quality – Mitigation for air quality</b></p> <p>As a mitigation measure for air quality, the Proponent indicates: “[translation] Dust emissions from access and circulation roads as well as handling of aggregates must be controlled in accordance with the Quebec <i>Clean Air Regulation</i> (CQLR, c. Q-2, r. 4.1)” (p. 5-23)</p>	Compliance with the <i>Clean Air Regulation</i> is not a mitigation measure; this is the law.
<b>Aquatic wildlife</b>				
9	DFO	Vol. 1 Section 7.2 and Section 14.6: Conceptual offsetting plan	<p><b>Aquatic wildlife – Compensation project</b></p> <p>In section 7.2: Aquatic wildlife of the Environmental Impact Statement (EIS), the Proponent proposes to implement the following mitigation measure: “[translation] Develop a compensation project for project-related wetland losses which will be submitted to the Quebec’s ministère de l’Environnement et de la Lutte contre les changements climatiques for approval”. This compensation program is detailed later in the EIS, in section 14.6: Conceptual offsetting plan.</p> <p>Based on the information provided to date, the Proponent must obtain authorization under paragraph 35(2)(b) of the <i>Fisheries Act</i> to carry out the project as described.</p> <p>Offsetting options have been identified and are presented in Sectoral Report 9. The options mentioned include converting borrow pits to water bodies.</p> <p>Fisheries and Oceans Canada considers that creating fish habitat using borrow pits or areas of granular deposits is not a preferred option. In these basins that will be excavated in borrow pits, the productivity of the environment depends on both abiotic factors (quantity and quality of the water, temperature, oxygen, pH, water depth, nature of the substrate, water renewal time) and biotic factors (supply of nutrients, primary production, vegetation, prey). All these factors must be controlled and known, and many years could pass before a state of equilibrium is established in these basins. In addition, one of the issues with this type of offsetting option is silting up of the outlet or tributary of the basin, thereby isolating the water body over the more or less long term and reducing its offsetting value. Indeed, one of the objectives of the <i>Fisheries Productivity Investment Policy</i> specifies that offsetting measures must generate self-sustaining benefits over the long term.</p>	<p>The Proponent must consider other options than the excavation of borrow pits to offset the unavoidable serious harm caused to fish by the project. The policy is available at: <a href="http://www.dfo-mpo.gc.ca/pnw-ppe/offsetting-guide-compensation/index-eng.html">http://www.dfo-mpo.gc.ca/pnw-ppe/offsetting-guide-compensation/index-eng.html</a></p> <p>In addition, since the anticipated serious harm will most likely be significant, the Proponent is encouraged to contact Fisheries and Oceans Canada to discuss the options being considered before investing efforts in their development.</p>

Ref. No.	Author	EIS Ref.	Context and Rationale	Advice or Recommendation
<b>Description of the effects on the components affecting Indigenous communities – Human health</b>				
10	HC	Vol. 1 p. 8-53	<p><b>Indigenous communities and human health – Effects on traditional foods</b></p> <p>Concerning medicinal plants, the Proponent indicates: “[translation] It should be noted that certain medicinal plants were identified in the study area by participants in the interviews. These include Labrador tea, blueberry plants (for the roots particularly) and alder leaves. However, these plants are not rare in the traplines and are also found in abundance in other areas.” (p. 8-53)</p>	Health Canada would like to remind the Proponent that simply because a resource is “abundant” does not mean that the potential impacts on it can be minimized.
<b>Description and effects on regional communities – Socio-economic environment</b>				
11	MAT	Vol. 1 Section 9	<p><b>Regional communities – Air transport of workers through Matagami</b></p> <p>According to the Town of Matagami (the Town), urban centres such as Val-d’Or and Rouyn-Noranda are often favoured over Matagami for the use of airport infrastructure and the recruitment of labour. According to the Town, mining projects could allow it to offer a new service and attract other Proponents to use the Town’s airport services, thereby ensuring that there is a regular flight passing through Matagami once or twice a week. If the mining companies and other types of industry make increasing use of Matagami’s airport services, this will allow the Town to attain sufficient local volume to establish a continuous service. Using Matagami for project-related air transport would allow the Town to limit the current process of demographic decline, since workers will not be encouraged to leave the Town to work further north owing to the transport logistics.</p>	The Agency recommends that the Proponent assess the option of using the Town of Matagami for the transport of its employees.
12	MAT	Vol. 1 Section 9	<p><b>Regional communities – Use of the infrastructure in Matagami for the mine construction phase</b></p> <p>According to the Town of Matagami, it has the infrastructure to accommodate the development that will result from the Rose project. The Town considers itself an “important player” in supporting mining development and a partner in identifying sustainable solutions to the challenges facing mining companies in terms of logistics, labour and social acceptability.</p> <p>The Town of Matagami would like the Proponent to optimize the economic benefits for this town by using its infrastructure for the construction phase of the mine. The Town would like the Proponent to consolidate some of its operations in Matagami for the construction site, which, according to the Town, would make it possible to deliver goods to the mine site using the “just in time” method within a timeframe of only five hours. According to the Town, this strategy would have the effect of reducing the project’s ecological footprint, since each area in Matagami used for storage would be an area that would not have to be built on the mine site and, ultimately, rehabilitated on the site.</p>	The Agency recommends that the Proponent assess the option of using the infrastructure in Matagami for the construction phase of the mine.

Ref. No.	Author	EIS Ref.	Context and Rationale	Advice or Recommendation
			<p>The Town is of the opinion that it would be possible to optimize the logistics chain by using infrastructure that could be developed in Matagami starting now for management of mine construction and that could be used for the operation of the mine. For example, a proponent that plans to ship its concentrate once the mine is operational will have to use megadomes to store the concentrate and protect it from inclement weather before it is loaded for rail transport. These megadomes could be built now and used as warehouses for construction of the mine. The Town believes that these infrastructures could be included in the initial capitalization and subsequently available throughout the operation phase. According to the Town, this would be an efficient and cost-effective method from a financial standpoint that would allow work to begin on the mine immediately. According to the Town, the Proponent could, however, begin to carry out preparatory work in Matagami.</p> <p>According to the Town, the concept of land use is extremely important in this region, since the James Bay communities are suffering from a demographic decline, which weakens the communities and affects their ability to ensure their own long-term development. Mines that set up operations in isolated areas often establish their base of operations in urban centres or in somewhat more populated regions such as Abitibi-Témiscamingue, thereby avoiding Matagami. The Town thus hopes to obtain its fair share of the spin-off benefits. Mining projects generate significant volumes of business and, for the Town of Matagami, it would be crucial to be able to count on this volume to develop and improve its services.</p>	
13	MAT		<p><b>Regional communities – Consultations</b></p> <p>The Town of Matagami would like to be recognized as a partner in the development of the Rose lithium-tantalum mining project and to examine ways it can participate in its development.</p> <p>In its comments, the Town of Matagami points out that the meetings with stakeholders in connection with the Environmental Impact Statement in order to take the concerns of the James Bay communities into account took place some seven years ago, which means that the situation has evolved considerably since then.</p> <p>In addition, according to the Town of Matagami, although it has somewhat diversified its economy over the years, the community remains heavily dependent on the mining industry and this is why a project such as Critical Elements Corporation's Rose mining project would represent a major opportunity for it.</p>	<p>Since many years have passed since the last consultations between the Proponent and James Bay organizations, the Agency recommends holding a new round of consultations on the Environmental Impact Statement with the James Bay organizations and communities concerned by the project, including the Town of Matagami.</p>



Ref. No.	Author	EIS Ref.	Context and Rationale	Advice or Recommendation
<b>Environmental monitoring program and environmental management plans</b>				
14	SVP	Vo1. Section 14	<p><b>Environmental monitoring and management – Independent monitoring program</b></p> <p>In the Environmental Impact Statement, the Proponent mentions that it plans to establish a monitoring committee, whose objective will be to facilitate the involvement of the local community in the project as a whole. This committee will be established upon commencement of construction of the project and will continue to operate until completion of all work planned under the restoration and redevelopment plan. The monitoring committee will be composed of at least one representative of the municipal sector, a representative of the business community, a local resident and a representative of an Indigenous community consulted by the government with regard to the project.</p> <p>The Société pour Vaincre la Pollution (SVP), as part of their review of the Renard diamond mining project, conducted a review of the following independent monitoring programs: Victor diamond mine in the western part of James Bay in Ontario, the Snap Lake Mine in Yellowknife in the Northwest Territories, BHP's Diavik and Ekati mines in the Northwest Territories and the "Good Neighbour Agreement" of the Stillwater Mine in Montana.</p> <p>It should be noted that the mine is located on Category III lands, which are public lands where the Cree have certain hunting, fishing and trapping rights.</p>	<p>The Agency recommends that the Proponent consider an independent monitoring program adapted for the Cree territory, and that the concept is communicated to the Cree communities concerned, particularly Nemaska, in order to gauge their interest in participating in such an initiative.</p> <p>The Proponent could also consider the possibility of instituting a citizen monitoring program for the project. The Proponent could also evaluate the concept of recruiting Cree hunters and trappers as well as other users of this area to participate in monitoring of the mine.</p>
15	SVP	Vol. 1 Section 14	<p><b>Environmental monitoring and management – Innovative monitoring technologies</b></p> <p>According to the Société pour Vaincre la Pollution (SVP), many components of this mining project have the potential to pollute the environment, and innovative technologies could be used in order to make the mine monitoring program more effective, efficient and accessible.</p>	<p>In order to make the environmental monitoring of the mine more accessible and timely, the Agency recommends that the Proponent conduct an inventory of sampling and analysis technologies that are innovative, inexpensive and easy to use, such as colorimetric (colour change) pollutant analysis kits indicating the presence or absence of certain pollutants emitted by a lithium mine. These kits could be used for local community monitoring of the Rose mine while avoiding the lengthy turnaround times involved in sending samples for analysis to a commercial laboratory located far to the south.</p>

**Appendix 1: More information about limitations associated with the sole use of comparisons of anticipated (or modelled) emissions/concentrations with the guidelines, standards and criteria in place to protect the physical environment (air, water, soil, etc.) for the purposes of determining the intensity and significance of health effects**

The main limitations of the sole use of comparisons of anticipated (or modelled) emissions/concentrations with the guidelines, standards and criteria in place to protect the physical environment (air, water, soil, etc.) for the purposes of determining the intensity and significance of health effects are presented below.

First, it should be noted that the guidelines, standards and criteria to which the proponents refer in their environmental impact statements generally make it possible to avoid potential health-related impacts on the biophysical environment (air, water and soil quality). This is why they are good tools for conducting a “preliminary” risk assessment.

However, in certain situations, a more detailed **toxicological risk assessment** can be performed to achieve a more accurate estimate of the risks to human health. This type of evaluation may notably make it possible to:

- (1) respond to potential concerns of the population;
- (2) help validate the impact studies’ conclusions on the effects of chemicals on health;
- (3) gain a better appreciation of the significance of these effects;
- (4) facilitate the identification of the most important mitigation measures and;
- (5) establish appropriate risk management strategies.

The main limitations associated with the sole use of comparisons of anticipated (or modelled) emissions/concentrations with the guidelines, standards and criteria in place to protect the physical environment (air, water, soil, etc.) for the purposes of determining the intensity and significance of health effects are presented below:

1. Certain substances do not have a standard/criterion predefined by the authorities (e.g. perfluorooctanesulfonate [PFOS] and polyfluoroalkyl substances [PFAS]).
2. For some substances in certain environments, there are no predefined standards/criteria for protecting health (in traditional foods, sediments, etc.). These criteria are generally developed on a case-by-case basis, depending on various factors, such as specific exposure of receptors to contaminants—pregnant women, hunters/fishers with dietary patterns that differ from the general population, etc.
3. There are substances for which the standards/criteria that have been developed are not based specifically on the effects on human health (e.g. the *Metal and Diamond Mining Effluent Regulations* and the *Water Quality Guidelines of the CCME*). The standards/criteria for certain substances may also be established based on the limitations of current treatment systems (e.g. arsenic in drinking water). It is therefore not necessarily optimal to generalize compliance with these health protection standards/criteria.
4. The environmental standards and criteria developed generally do not consider all possibilities of human exposure (inhalation, ingestion, skin contact) nor their potential for bioaccumulation in the food chain. As a result, certain standards/criteria designed to protect air quality may only consider the impact on health through inhalation. For example, even if a proponent demonstrates that emissions will comply with the *Canadian Ambient Air Quality Standards* for fine particulate matter, based on the chemical composition of these particulates, direct and/or indirect exposure to them could pose a risk to the health of the receptors. It can therefore be concluded that compliance with the standards/criteria established for a single environment (air, water, soil, food, etc.) and considering them to

be synonymous with “global” health protection (exposure to contaminants by all routes) is not always adequate.

5. There are substances for which there are no known health effect thresholds. For example, there are no known health effect thresholds for fine particulate matter (PM<sub>2.5</sub>) in the air, regardless of the exposure site (Health Canada, 2013). The *Canadian Ambient Air Quality Standards* for fine particulate matter, therefore, should not be considered as thresholds below which no health effects occur. Proponents should therefore make the necessary efforts to minimize these emissions.

For these reasons, in the environmental assessment process, it may sometimes be preferable to conduct a toxicological risk assessment. This type of analysis helps determine the importance of the effects on health by specifically considering the nature of the substances (their toxicological characteristics, their cycle in the ecosystem, their bioaccumulation potential, etc.), the exposure of the population to them (e.g. specific consumption habits), the vulnerability of the population (children, pregnant women, the elderly, people with certain diseases) and the potential concerns for the population. This type of assessment can also help identify the most critical mitigation measures for limiting exposure of the population to chemical substances.

The effort required to produce a toxicological risk assessment depends on several factors, including the nature of the projects, the substances emitted, the availability of data, the extent of the concerns, the degree of certainty required, etc. It can therefore be relatively simple to conduct but it can also involve a very long and complex process.

Identification of the hazard—the first step in the toxicological risk assessment—gives a general overview of the risk while the quantitative assessment of the toxicological risks makes it possible to calculate the excess risk associated with exposure to the substances. Generally, if identification of the hazard determines that potentially unacceptable risks might exist, then a quantitative assessment of the toxicological risks should be done. This type of assessment generally qualifies or quantifies the risk to human health.

For substances for which the exposure-response or dose-effect relationship is assumed to be linear or **without a health effect threshold at low doses** (e.g. genotoxic carcinogens, or a substance with an effect other than cancer but no known threshold, such as lead and its impact on IQ), the quantitative assessment of the toxicological risks might make it possible, for example, to calculate the additional cancer risk by multiplying the exposure (or the concentration anticipated by a project) by a unit coefficient of excess cancer risk. Health Canada considers an excess cancer risk of less than 1/100,000 to be “negligible”. It should be noted that certain provinces consider an excess cancer risk of less than 1/1,000,000 to be “negligible”.

For substances whose exposure-response or dose-effect relationship is assumed to be nonlinear or with a health effect threshold (e.g. chromium), the quantitative assessment of toxicological risks might make it possible, for example, to calculate a risk index, i.e. the ratio between the anticipated dose (or anticipated exposure) and the **reference toxicological value** (acceptable daily intake that organizations consider tolerable). Health Canada asserts that exposure with a risk index of less than 1 is negligible (if all exposure pathways have been considered—consumer products, food, air and water).

These types of indicators can therefore contribute to the definition of a “threshold of importance” for health effects.

It is important to note, however, that a toxicological risk assessment usually only targets the health risks associated with exposure to chemicals in water, air, soil, food and consumer products. Only one part of the health determinant “Physical Environment” is covered by this type of assessment. Yet exposure to pathogens, radionuclides and other nuisances (e.g. noise, dust, light, odours), regardless of whether they are subject to a standard/guideline or not, are also considered in environmental impact assessments (the environment including human health).

With regard to noise in particular, it is worth noting that compliance with noise guidelines/standards is not necessarily a guarantee that there is no impact. For example, in the case of what is initially a very low noise environment, any slight increase in the noise level associated with a project generates significant negative effects for the neighbouring population, despite the fact that the standards/guidelines on noise are respected. The way in which communities react to higher noise levels can vary considerably from one community to another.

Consultation with Aboriginal peoples and the adaptation of mitigation and follow-up measures based on the specific concerns of the community can help to lower health effects. In this sense, a **health impact assessment** that takes into account several health determinants and is done in close collaboration with Aboriginal peoples can help reduce the limitations associated with the sole use of comparisons of anticipated (or modeled) emissions/concentrations with health guidelines in order to determine the intensity and significance of the health and socio-economic impacts of projects.

## **DEFINITIONS**

### **Health impact assessment:**

"A combination of procedures, methods and tools used to assess the potential health effects\* of a policy, program or project on a population and the distribution of these effects within the population."

\*Health effects can be defined as "overall effects, direct or indirect, of a policy, strategy, programme or project on the health of a population. (This may include direct effects on the health of the members of the population and more indirect effects through intermediate factors that influence the determinants of the health of the population. Such impacts may be felt immediately, in the short term or after a longer period of time)."

([http://www.impactsante.ch/pdf/HIA\\_Gothenburg\\_consensus\\_paper\\_1999](http://www.impactsante.ch/pdf/HIA_Gothenburg_consensus_paper_1999), p.4).

### **Toxicological risk assessment:**

Process for estimating the nature and likelihood of adverse health effects on humans who may be exposed to chemicals, now or in the future. (Unofficial translation: <https://www.epa.gov/risk/human-health-risk-assessment>).

### **Substances with no health effect threshold at low doses:**

Substance for which the exposure-response relationship is considered linear. There is an effect related to each dose (e.g. genotoxic carcinogens, lead, certain air pollutants such as fine particles, etc.).

### **Substances with a health effect threshold:**

A substance whose exposure-response relationship is considered non-linear; effects are observed only starting at a certain level of exposure (e.g. chromium).

**Appendix 2: Mapping of the Critical Elements Corporation's drilling zones between 2009 and 2017 (mapping provided by the Société pour Vaincre la Pollution [SVP], provided in its comments document submitted to the Canadian Environmental Assessment Agency, April 2019)**

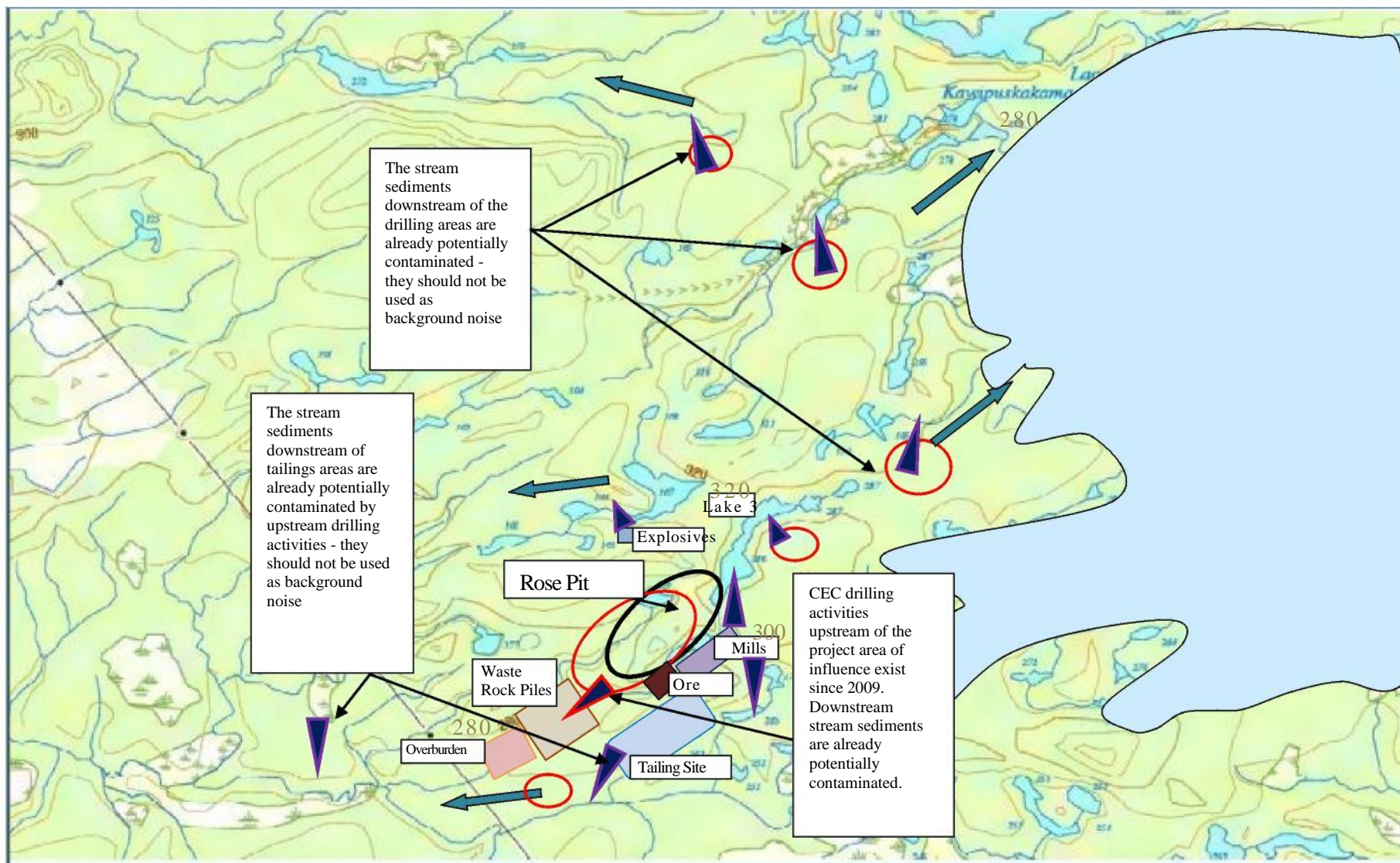
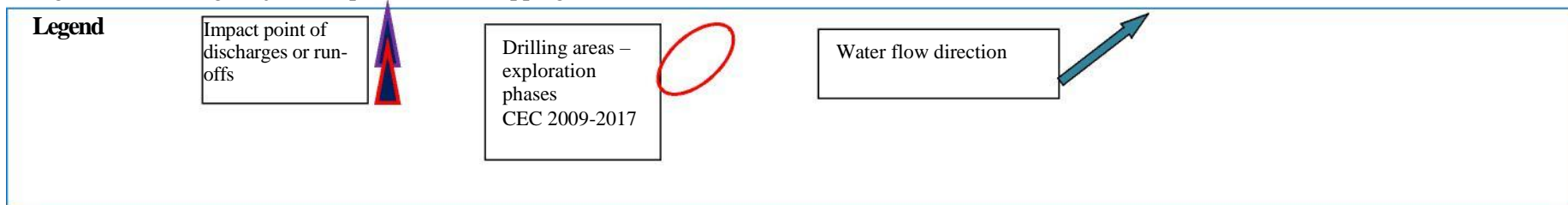
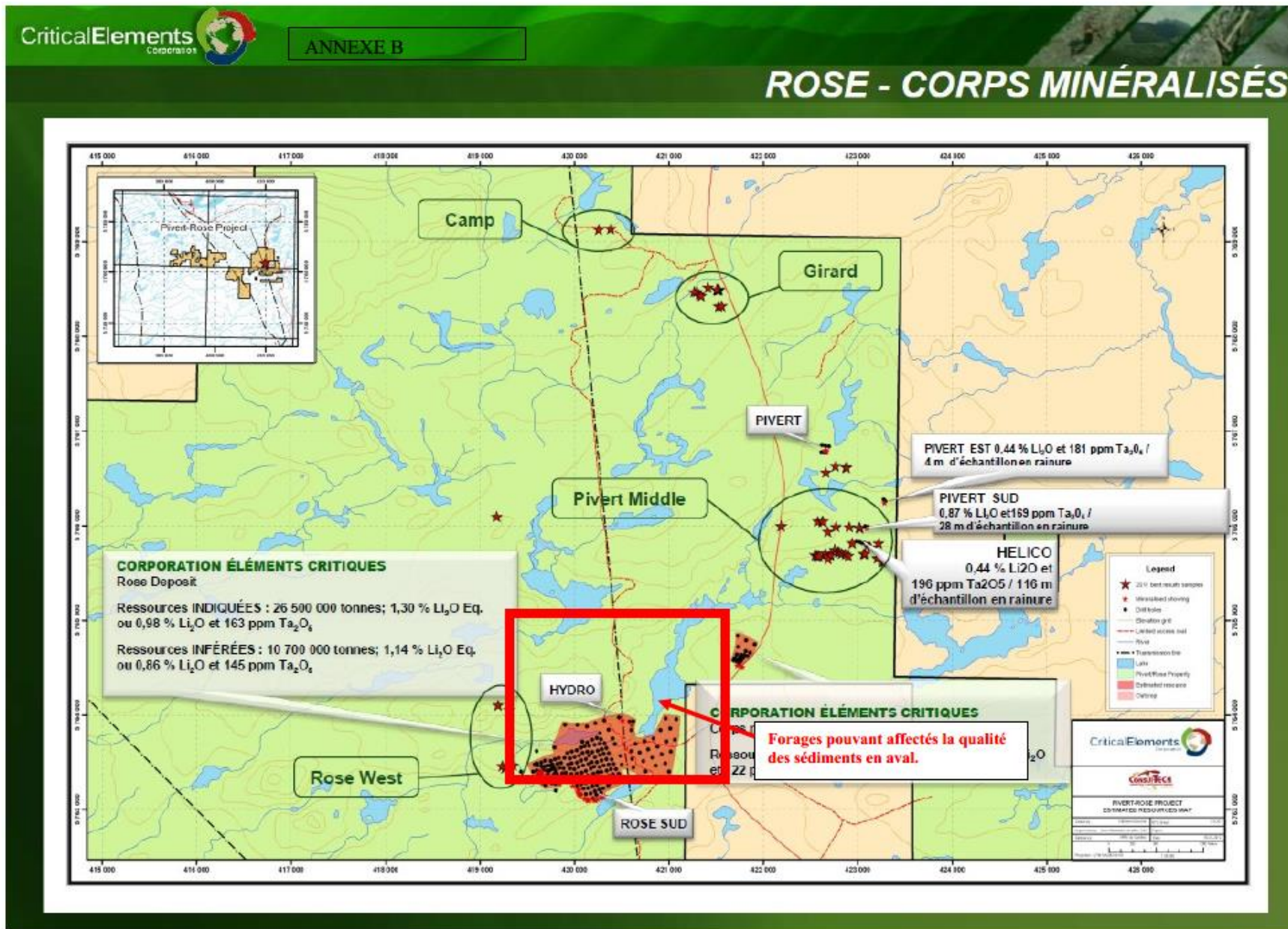


Fig 1. Rose Mining Project - Impact Points - mapping based on CEC technical documents





Appendix 3: Location of Project Impact Zone (Mapping submitted by the Société pour Vaincre la Pollution (SVP) and provided in its comments document submitted to the Canadian Environmental Assessment Agency, April 2019)





**Annexe 4: Location of drilling on the Rose Lithium-Tantalum Mine Project Site (Mapping submitted by the Société pour Vaincre la Pollution (SVP) and provided in its comments document submitted to the Canadian Environmental Assessment Agency, April 2019)**

