

**ANNEX 1: Departmental input re conformity information requirements directed to the proponent
Joyce Lake Direct Shipping Iron Ore Project**

Please use the table below to provide your department’s comments and suggestions for information that should be required from the proponent to ensure the EIS conforms to the EIS Guidelines. Please keep in mind the focused questions provided in the cover letter as to what is required during a **conformity** review; your input on whether the information is scientifically and technically accurate will be sought later during the **technical** review.

ID	Reference to EIS Guidelines	Reference to EIS	Context and Rationale	Specific Conformity Information Requirement	Revised EIS or Supplementary Info
HC-1	9.1.2 Biophysical environment <i>“Ambient air quality in the project areas and, for the mine site, the results of a baseline survey of ambient air quality, including the contaminants: Total Suspended Particulates, PM2.5, PM10, SOx, VOCs and NOx;”</i>	EIS 10.5.2.2 Air Quality EIS 10.5.3.5 Air Quality Appendix F – Air Quality Modelling Report 5.2 Background Levels	<p>The Environmental Impact Statement (EIS) provided incomplete information on ambient air quality in the project areas, including site-specific data for the mine site, as follows:</p> <ul style="list-style-type: none"> Referenced baseline air quality data for total suspended particulates (TSP), fine particles (PM_{2.5}), and metals of concern is dated and not specific to the mine site. Baseline air quality data were not reported for particulate matter less than 10 µm in diameter (PM₁₀) and volatile organic compounds (VOCs) for either the project areas or the mine site, with no rationale provided for exclusion. Background concentrations of air contaminants carbon monoxide (CO), nitrogen oxides (NO_x) and sulphur 	<p>Health Canada recommends that the Agency request the following information from the proponent:</p> <p>Provide a complete baseline survey of current ambient air quality conditions in the project areas, including for the mine site, to meet the requirements of the EIS Guidelines.</p> <p>Refer to Health Canada’s Guidance for Evaluating Human Health Impacts in Environmental Assessments: Air Quality¹ for additional information.</p>	The missing information have implications for multiple sections of the EIS and therefore warrant resubmission of a revised EIS.

¹ Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. <https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-air-quality.html>.

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			<p>dioxide (SO₂) were assumed to be zero with insufficient rationale provided.</p> <p>Underestimated baseline conditions and excluded contaminants of potential concern (COPCs) may underestimate the total effects of the project plus baseline on ambient air quality. Overestimated baseline conditions may underestimate the change in ambient air quality, and consequently the human health impacts, particularly regarding non-threshold substances (i.e., pollutants for which health effects may occur at any level of exposure).</p>		
HC-2	10 Effects Assessment	<p>EIS 10.6.1 Assessment of Project-Related Environmental Effects on Air Quality</p> <p>Appendix F – Air Quality Modelling Report 6 Results and Discussion</p>	<p>Air quality modelling was not completed for relevant COPCs related to diesel exhaust (DE) emissions from the project.</p> <p>DE, a complex mixture of gases (including VOCs and polycyclic aromatic hydrocarbons [PAHs]) and diesel particulate matter (DPM), is carcinogenic. No justification was provided for the exclusion of air pollutants associated with DE from the air quality modelling.</p>	<p>Health Canada recommends that the Agency request the following information from the proponent:</p> <p>Include an inventory of all emissions and potential COPCs resulting from the proposed project, including those related to DE, in an air quality effects assessment. All sources should be considered, including project-related processes, on-site vehicle usage and fugitive emissions. Provide an evidence-based rationale for the omission of</p>	<p>The missing information have implications for multiple sections of the EIS and therefore warrant resubmission of a revised EIS.</p>

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				<p>any COPCs from the assessment.</p> <p>Detailed technical guidance on the consideration of air quality impacts on human health in the context of environmental assessments can be found in Health Canada's Guidance for Evaluating Human Health Impacts in Environmental Assessments: Air Quality¹</p>	
HC-3	<p>9.1.2 Biophysical environment</p> <p>9.1.3 Human Environment</p> <p>9.2 Potential or Established Aboriginal and Treaty Rights and Related Interests</p> <p>10.1.3 Effects of changes to the environment</p> <p>10.2 Adverse Impacts on Aboriginal and</p>	<p>EIS Chapter 2: Project Description</p> <p>EIS 10.5.2.2 Air Quality</p> <p>EIS 10.5.2.3 Acoustic Environment</p> <p>EIS 10.5.3.5 Air Quality</p> <p>EIS 10.5.3.6 Acoustic Environment</p> <p>EIS 10.6.1 Assessment of Project-Related Environmental Effects on Air Quality</p> <p>EIS 10.6.2 Assessment of Project-Related</p>	<p>The EIS does not provide the existing and predicted project-related ambient air contaminant concentrations or noise levels along transportation routes at locations where receptors may potentially be affected by mobile air pollutant emissions or noise sources.</p> <p>The EIS reported that high grade iron ore (DSO) and fines products will be trucked to the Astray rail loop for approximately eight months (non-winter months) of the year. The EIS also reported that the Project has continuous operational demand of 24 hours/day and 12 months/year for mining activities requiring transportation of personnel, equipment and supplies year-round. However, air quality or noise effects were not assessed along the following transportation routes:</p>	<p>Health Canada recommends that the Agency request the following information from the proponent:</p> <p>a) Identify human receptors (e.g., permanent residences, seasonal cabins, camps, and trails, traditional land resources use sites by Indigenous persons) along the new service road and existing access road connecting the mine site to Schefferville and along the entirety of the 43 km new haul road (crushing and screening plant to rail loop); and</p>	<p>This information request can be adequately addressed through the provision of supplementary information.</p>

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	Treaty Rights and Related Interests	Environmental Effects on Acoustics EIS 19.5 Existing Environment Appendix E – Noise Modelling Study Appendix F – Air Quality Modelling Report	<p>i. The new service road and existing access road connecting the mine site to Schefferville. Most, if not all, of the project-associated vehicles are anticipated to travel along this section of road and through Innu First Nation of Matimekush-Lac John Reserve (Québec); and</p> <p>ii. DSO products haulage traffic along the entirety of the new haul road connecting the crushing and screening plant to the new Astray rail loop yard, a distance of approximately 43 km.</p> <p>Furthermore, the EIS does not mention the presence or absence of human receptors along these transportation routes.</p>	b) Provide baseline, predicted project-related, and baseline + project air contaminant concentrations and noise levels for key receptors along these transportation routes.	
HC-4	9.1.2 Biophysical environment 9.1.3 Human Environment 10 Effects Assessment	EIS 1.0 Introduction – Figure 1.1 EIS 11.5.3.4 Surface Water Supply EIS 12.5.3 Baseline Conditions EIS 12.5.3.9 Existing Groundwater Resource Users	<p>The EIS provides incomplete information regarding the location and usage of local and regional potable groundwater supplies and potable surface water resources, including those used by Indigenous persons.</p> <p>Section 12.5.3.9 of the EIS states <i>“There are cabins or hunting camps in the area that may have drinking water wells; however, it would be necessary to conduct a visual inspection of these locations to confirm presence or absence of a supply.”</i></p>	Health Canada recommends that the Agency request the following information from the proponent: a) Identify whether there are any seasonal cabins, camps, cottages currently using potable groundwater supplies within the defined spatial boundaries (i.e., Project Development Area [PDA], Local Study Area [LSA], Regional Study Area [RSA]) for	This information request can be adequately addressed through the provision of supplementary information.

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			<p>Furthermore, Section 12.5.3.9 of the EIS indicates that several seasonal dwellings on the western shores of Iron Arm Lake near the proposed mine site and on the shores of Astray Lake, northeast and south of the rail yard loop (refer to Figures 19.9 and 19.10 in Chapter 19), are suspected of using surface water or local springs for potable supply. However, a description of these local surface potable water resources has not been provided.</p>	<p>the environmental effects assessment on water resources.</p> <p>b) Provide a description of any local surface potable water resources within the LSA and RSA.</p>	
HC-5	<p>9.1.3 Human Environment</p> <p>9.2 Potential or Established Aboriginal and Treaty Rights and Related Interests</p> <p>10.1 Environmental effects</p> <p>10.2 Adverse Impacts on Aboriginal and Treaty Rights and Related Interests</p>	<p>EIS Chapter 19: Current Use Of Land and Resources For Traditional Purposes By Indigenous Persons</p> <p>EIS 19.2.2 Influence of Consultation and Engagement on the Assessment – Table 19.1 and Figure 19.5</p> <p>EIS 19.5 Existing Environment – Table 19.5</p>	<p>The EIS does not provide background levels of COPCs in country foods, which is identified as a potential exposure pathway for human health risks.</p> <p>The EIS references the potential for the transport of contaminants to the aquatic, terrestrial and human environments. Additionally, the EIS reports that both the Innu First Nation of Matimekush-Lac John and the Naskapi Nation of Kawawachikamach (Québec) use traditional lands and resources in and around the Project LSA (refer to Tables 19.1, 19.5 and Figure 19.5). However, while the EIS provides some information regarding country food harvesting (e.g., fishing, gathering, hunting, trapping), further rationale is required for not providing a baseline survey of country food consumption. Current (baseline) COPC</p>	<p>Health Canada recommends that the Agency request the following information from the proponent:</p> <p>a) Identify what country foods items (species as well as the specific tissues or parts of plants) are consumed, preferably using surveys of potentially affected Indigenous communities.</p> <p>b) Provide an inventory of potential COPCs relevant to country foods (including naturally-occurring contaminants such as methylmercury and arsenic) and their estimated or measured baseline</p>	<p>The missing information have implications for multiple sections of the EIS and therefore warrant resubmission of a revised EIS.</p>

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			<p>levels should also be documented in edible tissues for each of the country foods consumed by the Indigenous populations of the region.</p>	<p>concentrations in the country food items identified.</p> <p>Detailed technical guidance on consideration of impacts of country foods consumption on health in the context of environmental assessments can be found in Health Canada's Guidance for Evaluating Human Health Impacts in Environmental Assessments: Country Food².</p>	
HC-6	<p>9.1.3 Human Environment <i>"The proponent will include all baseline information relevant to human health in one section of the EIS. The proponent will refer to Health Canada's "Useful Information for Environmental</i></p>	<p>EIS 5.5.5 Existing Environment EIS Chapter 21: Community Services and Infrastructure</p>	<p>The EIS does not provide baseline information relevant to human health (i.e., noise, air quality, drinking and recreational water quality, country food quality) in one consolidated section.</p> <p>Section 5.5.5 (Existing Environment) of the EIS states <i>"Baseline information relevant to human health as per Health Canada (2010) guidance is presented in Chapter 21 (Community Services and Infrastructure)"</i>. However, Health Canada (2010)³ is not</p>	<p>Health Canada recommends that the Agency request the following information from the proponent:</p> <p>Summarize all baseline information relevant to human health (receptor locations, noise, air quality, drinking and recreational water quality, country food quality) that informs the evaluation of potential project</p>	<p>This information request can be adequately addressed through the provision of supplementary information.</p>

² Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Food. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. <https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-country-foods.html>.

³ Health Canada. 2010. Useful Information for Environmental Assessments. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. <http://publications.gc.ca/pub?id=9.700511&sl=0>.

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	<i>Assessments” document in order to include the appropriate baseline information relevant to human health.”</i>		referenced in Chapter 21 and baseline information relevant to human health (air quality effects, the contamination of country foods, drinking and recreational water quality, and noise effects) has not been included.	related impacts to human health.	
HC-7	<p>9.1.2 Biophysical environment</p> <p>9.1.3 Human Environment</p> <p>10.1 Environmental effects <i>“When risks to human health due to changes in one or more of these components are predicted, a complete Human Health Risk Assessment (HHRA) examining all exposure pathways for pollutants of concern may be necessary to adequately characterize</i></p>	<p>EIS 5.5.4 Potential Project-Valued Component Interactions</p> <p>EIS 10.6.1 Assessment of Project-Related Environmental Effects on Air Quality</p> <p>EIS 11.4 Potential Project-VC Interactions</p> <p>EIS Chapter 19: Current Use Of Land and Resources For Traditional Purposes By Indigenous Persons</p> <p>EIS 21.4.2 Interactions Rated 1</p>	<p>The EIS does not adequately justify why a HHRA was deemed unnecessary.</p> <p>Section 21.4.2 (Interactions Rated 1) of the EIS states that a HHRA was not required for this Project. However, effects of the Project on air and water quality were not adequately assessed and contamination of country foods was not discussed despite Indigenous traditional knowledge documenting that country foods are, or are expected to be, consumed in the LSA.</p> <p>All chemicals that may be elevated in environmental media as a result of project activities may be initially considered as COPCs. However, if the modelled concentrations plus the baseline concentrations are calculated to be below guidelines/standards/criteria for the impacted media, the problem formulation phase of the risk assessment may conclude that the chemicals do not need to be carried forward as COPCs in a quantitative</p>	<p>Health Canada recommends that the Agency request the following information from the proponent:</p> <p>Provide information regarding exposure potential for all relevant exposure pathways associated with project activities using health based standards or guidelines. <i>The results and conclusions reached in the assessment related to human health should be sufficiently detailed and appropriate for the specific project and the type of HHRA undertaken.</i></p> <p>Refer to Health Canada’s Guidance for Evaluating Human Health Impacts in Environmental Assessments: Human Health Risk</p>	The missing information have implications for multiple sections of the EIS and therefore warrant resubmission of a revised EIS.

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	<p><i>potential risks the human health.”</i></p> <p>10.2 Adverse Impacts on Aboriginal and Treaty Rights and Related Interests</p>		<p>risk assessment. In cases where there are no guidelines/standards/criteria available for screening an environmental medium (e.g., country foods), the COPCs will be carried forward into a quantitative risk assessment to determine whether there may be health risks associated with the predicted concentrations.</p> <p>A HHRA is an effective and comprehensive means to examine all exposure pathways for COPCs and assess the potential for adverse human health effects.</p>	<p>Assessment⁴ for additional information.</p>	
HC-8	<p>16 Monitoring and Program and Environmental Management Plans</p> <p><i>“In the EIS, the proponent will describe the monitoring activities at all stages of the project, the proponent’s proposed commitment to implementing these activities and the</i></p>	<p>EIS 7.3 Follow-up and Monitoring Program</p> <p>EIS 10.10 Follow-up and Monitoring</p> <p>EIS 11.10 Follow-up and Monitoring</p> <p>EIS 19.10 Follow-up and Monitoring</p> <p>EIS 25.1 Summary of Commitments – Table 25.1</p>	<p>The EIS provides insufficient detail on proposed follow-up and monitoring activities at all stages of the project.</p> <p>The EIS makes reference to several monitoring plans to be developed and incorporated into various Project Environmental Management and/or Protection Plans, however specific monitoring activities are not described.</p> <p><i>“An air quality monitoring plan will be developed in consultation with regulatory authorities, and will be incorporated into the Project EMP and/or EPP.”</i></p>	<p>Additional information describing proposed follow-up and monitoring program activities at all stages of the project, and their effectiveness and implementation is needed.</p> <p>Health Canada recommends that the Agency request the following information from the proponent:</p> <p>Provide additional information describing the monitoring</p>	<p>The missing information have implications for multiple sections of the EIS and therefore warrant resubmission of a revised EIS.</p>

⁴ Health Canada. (2018). Guidance for Evaluating Human Health Impacts in Environmental Assessments: Human Health Risk Assessment. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. <https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-risk-assessment.html>.

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	resources provided for this purpose.”		<p><i>“A complaint driven noise monitoring plan will be developed in consultation with regulatory authorities, and will be incorporated into the Project Environmental Management and/or Protection Plans.”</i></p> <p>Although Table 25.1 (Summary of Commitments) refers to the implementation of mitigation measures in several instances, monitoring activities are not described and insufficient rationale is provided for the exclusion.</p> <p>Monitoring programs are intended to determine the accuracy of predictions, to verify whether standards are being met, and to assist with implementing or modifying mitigation measures. Preliminary information on proposed monitoring and follow-up programs are necessary to review the assessment of risks to human health from project activities.</p>	activities to be implemented during all phases of the project. Alternately, provide a rationale for deeming the monitoring of health-relevant environmental effects unnecessary.	

**ANNEX 2: Departmental advice to the proponent
Joyce Lake Direct Shipping Iron Ore Project**

Please use the table below to provide any additional advice to the proponent not needed for conformity, such as guidance or standard advice related to your departmental mandate. This information will be passed along to the proponent, but no responses will be required from the proponent.

ID	Reference to EIS	Context and Rationale	Advice to the Proponent
HC-01	<p>EIS 5.5.5 Existing Environment</p> <p>EIS Chapter 21: Community Services and Infrastructure</p>	<p>The EIS Guidelines and the EIS refer to Health Canada (2010)³ for guidance on including appropriate baseline information relevant to human health. This high-level guidance provides an overview of the key elements that would be beneficial to Health Canada in providing advice on the environmental assessment of the potential impacts of a proposed project on human health. However, detailed guidance is available and should be referenced based on the predicted environmental effects of the project.</p>	<p>Health Canada recommends referring to the following detailed guidance on the assessment of human health impacts in Environmental Assessment.</p> <p>Air Quality (2016) (https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-air-quality.html)</p> <p>Noise (2017) (https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-noise.html)</p> <p>Water Quality (2016) (https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-water-quality.html)</p> <p>Country Foods (2018) (https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-country-foods.html)</p> <p>Human Health Risk Assessment (2019) (https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-risk-assessment.html)</p>