Enclosure 1: Federal Authority Advice Record – Crawford Nickel Project Impact Statement

Please submit the completed form by **February 7, 2025,** via the Registry.[1]

Department Contact Information

Submission Date	February 7, 2025
Department/Agency	Health Canada
Lead Contact, Title, Work Unit	Kitty Ma, Ontario Regional Manager, Environmental Health Program (EHP), Regulatory Operations and Enforcement Branch (ROEB)
Email, Phone	ia-on-ie-on@hc-sc.gc.ca
Alternate Contact, Title, Work Unit	Umme Akhtar, Regional Impact Assessment Specialist, EHP, ROEB
Email, Phone	umme.akhtar@hc-sc.gc.ca

---

1. Review the Impact Statement and provide views for IAAC's consideration in the analysis of the Project's effects and preparation of the Impact Assessment Report (Table 1) or identify potential deficiencies in the Impact Statement (Table 2).
   Completed

2. As per the Cooperation Plan[2], consider all the mechanisms in place to manage potential federal effects. If your department is responsible for, or aware of, any relevant federal or provincial legislative frameworks, policies, programs, or potential complementary measures[3] that may help manage the Project's potential adverse federal effects, please specify and describe applicability to the Project and any known limitations to managing effects.
   Health Canada acknowledges that additional co-beneficial mitigation measures for certain Indigenous health effects may be identified through permitting processes at the federal level (e.g., *Fisheries Act* for country foods) and the provincial level (e.g., Environmental Compliance Approvals for air, noise and/or vibrations).

3. Indicate whether your department has identified any power that it will be unable, or may be unable, to exercise to allow the Project to proceed, in whole or in part as currently planned, and next steps to resolve any issues.
   No

Health Canada / Kitty Ma

Name of Departmental / Agency Responder

Ontario Regional Manager

Title of Responder

February 7, 2025

Date

---

[1] All comments should be submitted via the ***Submit a Comment*** feature available on the Project's Canadian Impact Assessment Registry page (CIAR #83857). Letters and forms can be uploaded using this feature. If you have any difficulties submitting this way, please contact IAAC at *Crawford@iaac-aeic.gc.ca* for assistance.

[2] *https://iaac-aeic.gc.ca/050/evaluations/document/147338*

[3] Complementary measures are additional authorities of government officials or programs that may be used to mitigate effects that may be beyond the care and control of the proponent. They can be taken into account in decision-making.

Table 1. Views to Inform the Impact Assessment

Table 1 should be used to provide views for IAAC's consideration in the analysis of the Project's effects[4] and preparation of the Impact Assessment Report and potential conditions. Expert advisors should consider project context and regulatory context and provide risk-proportional, solution-oriented advice even where potential gaps in the Impact Statement are observed.

Comment ID	Refence to Impact Statement	Description of View or Concern Related to an Effect	Advice to Inform the Impact Assessment
Please identify comments by organization and comment number. *e.g.: HC-01*	*Identify the specific section of the Impact Statement to which your comment applies.*	*Provide a brief description of the view or concern for IAAC's consideration in the analysis of effects, based on available information, such as:* • *a missing pathway of an adverse federal effect that may really increase the overall extent of significance; or* • *sources of uncertainty that, in your department's view, may weaken potential conclusions.*	*Considering project context and regulatory context, provide solution-oriented advice for the impact assessment. For example:* • *Characterize residual effects and the level of uncertainty with predictions in the absence of more information from the Proponent, as predicted by your department. Explain the uncertainty. Consider describing the range of possible scenarios.* • *Suggest other mitigation and follow-up measures that may increase certainty in predictions or help manage uncertainty for adverse federal effects, including operational guidance or standards, and well-understood practices.* • *Describe any other federal or provincial legislative frameworks, policies, programs, and potential complementary measures that may provide another means to address adverse federal effects, or considerations related to the public interest factors, including predictable outcomes and whether other tools set conditions on the Proponent.* • *Identify those mitigation measures and project design elements that are necessary to limit the extent of significance of adverse federal effects, and those follow-up program measures that are necessary to address substantial uncertainty with the accuracy of predictions and the effectiveness of mitigation, in relation to key issues that are material to decision-making.* • *Provide advice on risk (likelihood and severity of effects), using applicable frameworks relevant to your mandate, to support IAAC's risk-based decisions.* • *Provide any additional considerations in relation to the Project's contributions to sustainability or to Canada's environmental obligations and climate change commitments.* • *Provide any additional considerations in relation to IAAC's obligations under section 79 of the* Species at Risk Act. *In the event of cross-cutting issues or a shared mandate/expertise with another agency or department, please specify the agency/department and contact persons.*
HC-01	**Chapter 13** Figure 13.3 PDF p. 60 **Appendix C.7** Section 4.2 PDF pp. 27-36 Section 6.1 PDF p. 47	**Consult with potentially impacted Indigenous Nations to confirm whether any receptor locations on the north and east sides of the Project Area should be considered.** The Impact Statement (IS) indicates that human receptor locations were identified through engagement with Indigenous Nations, focusing on areas of current use for traditional purposes. While several Indigenous Nations have identified extensive use of the Local Study Area (LSA) for traditional land and resource use (TLRU) activities (Section 4.2), a limited and smaller number of receptor locations (13) are identified in the human health risk assessment (HHRA) (Figure A.5) and noise impact assessment (Figure 13.3). The Proponent will impose land use restrictions within the modelled mine boundary (MMB) and the receptor locations located on the east side of the Project Area (PA) are excluded from the health assessment despite possible access through the MMB (Section 6.1). The North Driftwood and West Buskegau Rivers, located in the north and east directions of the	Health Canada (HC) recommends the Proponent confirm the following: 1) Verify the absence of any current or future receptor locations in the north and east sides of the PA based on consultation with local Indigenous Nations, if applicable. 2**)** If any new TLRU locations are identified, provide an assessment of the potential effects of the Project on the health of Indigenous peoples at those locations.

[4] "Effects" means adverse effects within federal jurisdiction and direct or incidental adverse effects (as defined in section 2 of the IAA), and considerations related to the public interest factors (as defined in section 63 of the IAA). Advice is also invited in relation to IAAC's separate obligations under section 79 of the *Species at Risk Act.*

	Figure A.5 PDF p. 312	PA, were identified as important TLRU areas by Flying Post First Nation, Matachewan First Nation, Mattagami First Nation, Taykwa Tagamou Nation and Métis Nation of Ontario during consultation (Section 4.2). However, no potential receptors are identified on the north and east sides of the PA. Since Health Canada (HC) does not have direct knowledge of Indigenous TLRU, the absence of receptor locations in those directions cannot be verified.	
HC-02	**Chapter 7** Section 7.2.2.1.3 PDF p. 26 **Appendix C.1** Table 5.4 PDF pp. 120-124 Table 5.8 PDF pp. 147-151 **Appendix C.7** Section 4.2 PDF pp. 27-36 Section 6.1 PDF p. 47	**Communicate potential project-related health risks to Indigenous traditional land and resource users near the project boundary.** In Chapter 7, the Proponent commits to establishing conditions for access to the PA via an Impact and Benefit Agreement with various Indigenous Nations. However, it is unclear whether the potential health risks associated with TLRU near the project boundary will be communicated directly to land users. Several Indigenous Nations have identified TLRU within and near the PA (Section 4.2). Health Canada recognizes that access within the MMB (i.e., PA plus a buffer zone) will be restricted through property agreements, signage, and gates, although traditional land users (on snowmobile trails, rivers, etc.) may still pass through the area within the MMB (Section 6.1). Tables 5.4 and 5.8 report that certain modelled contaminants of potential concern (COPCs), such as fine ($PM_{2.5}$) and coarse (PM_{10}) particulate matter, benzo(a)pyrene, nitrogen dioxide (NO_2), respirable crystalline silica (RCS), and total suspended particulate matter (SPM), are predicted to exceed or approach their respective short-term air quality criteria at selected receptor locations both within and outside the MMB. While extended stays in the MMB are not anticipated, short-term exposure to certain air pollutants (e.g., NO_2) and high-energy impulsive noise (e.g., blasting) could result in adverse health effects [1,2]. If country foods collected near the boundary are consumed by Indigenous traditional land users, ingestion of contaminants via food could also be an operable pathway of exposure. 1. United States Environmental Protection Agency. 2016. Nitrogen Dioxide (NO_2) Pollution. Available at: https://www.epa.gov/no2-pollution/basic-information-about-no2 2. HC. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Noise. Available at: https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-noise.html	Health Canada recommends that the Proponent commit to notifying Indigenous traditional land users of potential health risks associated with land use near the mining site (including consumption of country foods harvested near the project boundary) over the life of the Project.
HC-03	**Chapter 12** Section 12.4.1.1 PDF p. 34 Section 12.4.2.2 PDF p. 41 **Chapter 28** Attachment 28.1 PDF p. 98 **Chapter 34** Table 34.2 PDF pp. 15-20 Table 34.5 PDF p.36 Section 34.2.7 PDF p. 37 Section 34.2.8 PDF p. 39 Section 34.2.10 PDF pp. 40-41 **Appendix C.1** Table 5.4 PDF p. 122	**Further develop the follow-up monitoring programs to verify the underlying assumptions used in the health assessments. Include follow-up and adaptive management measures that are protective of the health of Indigenous peoples.** The proposed follow-up program (FUP) measures summarized in Chapter 34, including monitoring activities and plans for implementing or modifying mitigation measures, appear to omit certain HHRA recommendations, such as monitoring of arsenic [As] in surface water and fish, tungsten in surface water. It is uncertain whether these programs would adequately address uncertainties in predictions and reduce potential adverse effects on the health of Indigenous peoples. The FUPs for relevant valued components (VCs), including Atmospheric Environment, Surface Water, Fish and Fish Habitat, and Wildlife and Wildlife Habitat, lack essential details on monitoring (such as locations, duration, frequency, COPCs, and species) and the associated objectives (i.e., reducing specific uncertainties in model predictions and in the efficiency of mitigation measures) for the protection of Indigenous health. Information is also missing on adaptive management plans, such as the action levels that would trigger additional mitigation or adaptive management measures for each VC, as well as criteria to determine when a VC is considered protective of human health and no longer requires monitoring. Specific gaps in the FUPs include, but are not limited to: ***Air Quality FUP*** The Air Quality FUP lists SPM, PM_{10}, $PM_{2.5}$, metals in SPM, dustfall, and NO_2 for ambient monitoring (Table 34.2). However, other COPCs, such as chrysotile asbestos (50% of criteria), RCS (117% of criteria), sulphur dioxide 78% of criteria), are not listed, despite their significant contributions from the Project (Table 5.6). Health Canada recommends monitoring of COPCs that are predicted to exceed (or nearly exceed) air quality criteria values at locations where populations and individuals are likely to be exposed to the COPCs. Although chrysotile asbestos concentrations (Tables 5.4 & 5.6) and health-risk estimates are below the target values (Sections 7.4.1.2.2 & 7.4.1.3.2), monitoring this COPC could be a method of addressing concerns raised by the Métis Nation of Ontario regarding chrysotile exposure in Chapter 28. Section 9.2.1 of the TISG mentions that *"in situations where project related air, water or noise emissions meet local, provincial, territorial or federal guidelines, and yet public concerns were raised regarding human health effects, provide a description of the public concerns and how they were or are to be addressed."*	Health Canada recommends that IAAC consider the following in the analysis of the Project's effects and preparation of the Impact Assessment Report and potential conditions: 1) Develop detailed follow-up monitoring programs that complement the permitting requirements of the Project to validate key assumptions in the HHRA, including uncertainties related to predictions and mitigation effectiveness. 2) Monitor COPCs that are predicted to exceed or nearly exceed criteria/standards at locations where populations are likely to be exposed, including both short-term and long-term exposures, and where there is potential for bioaccumulation of COPCs in country food species. Consider expanding the COPC list to address public concerns. 3) Define action levels for each VC based on applicable criteria for human health protection, or changes in contaminant levels relative to baseline levels where such criteria do not exist. These levels should guide the implementation of adaptive management or mitigation measures and the duration of monitoring for each VC. 4) If monitoring results show increasing trends in COPC concentrations, exceedances of applicable guidelines, or surpass the action levels defined in the FUPs, update the HHRA to reassess the potential health risks. 5) Develop a communication plan detailing how follow-up monitoring results and human health risk analyses will be shared with affected

	Table 5.6 PDF pp. 136 **Appendix C.7** Section 7.4.1.2.2 PDF p. 187 Section 7.4.1.3.2 PDF pp. 198-199 Section 7.4.2.2.2 PDF pp. 214-215 Section 7.4.2.1.3 PDF pp. 207-214 Section 7.4.2 PDF p. 213 Section 7.4.2.2.1 PDF p. 214	Additionally, where health effects may occur even at any level of exposure to non-threshold air pollutants (such as NO_2, PM_{10}, $PM_{2.5}$), even when they are below the applicable Canadian Ambient Air Quality Standards (CAAQS), the proposed mitigation measures should not be restricted to meeting the CAAQS. Health Canada encourages the consideration of additional mitigation measures as recommended by Environment and Climate Change Canada (ECCC) in their submission. Please note that HC relies on ECCC for the technical effectiveness and the uncertainty surrounding mitigation measures. Health Canada acknowledges that additional mitigation measures may be identified through the provincial permitting process (i.e., Environmental Compliance Approval [ECA]) (Section 12.4.2.2). It remains unclear whether the ECA will be protective of human health as it may only consider the "project-alone contribution" and exclude sources such as particulate emissions from haul roads and wind erosion (Section 12.4.1.1). Additionally, the applicable criteria may not be health-based or may be less stringent than other available health-based standards (such as World Health Organization, CAAQS). ***Surface Water FUP*** The Surface Water FUP (Table 34.5) commits to monitoring parameters based on the *Metal and Diamond Mining Effluent Regulations*. However, HC recommends monitoring specific chemicals whenever elevated risks are predicted. The Project is predicted to contribute significantly to the elevation of COPC levels above baseline concentrations, and there is potential for COPCs with limited health-relevant fate or exposure data to be released, emitted or mobilized as a result of the project activities. For example, Table 34.5 does not include uranium despite the risk estimate exceeding the applicable target value for the Project-alone scenario (Section 7.4.2 of the HHRA). Table 34.5 also does not include tungsten, despite limited toxicological and bioaccumulation data available and the Proponent stating in Section 7.4.2.2.2 of the HHRA that monitoring tungsten concentrations in surface water and fish would help assess human exposure, as concentrations in the North Driftwood River are predicted to increase seven-fold from baseline. Although the project activities are not expected to increase mercury (Hg) concentrations in the environment (Section 7.4.2.2.1), HC recommends monitoring for Hg and methylmercury (Me-Hg) in surface water to confirm the absence of project-related contributions, due to regional concern about Hg and Me-Hg in fish. ***Country Foods FUP*** Health Canada recommends the development of a dedicated Country Food FUP to determine the accuracy of predicted COPC levels in country foods obtained by modelling and to address concerns raised by several Indigenous Nations regarding contamination of country foods from project activities (Chapters 25-28). While Section 34.2.8 mentions that the fish tissue monitoring program will analyse samples from North Driftwood River and West Buskegau River watersheds through consultation with affected Indigenous Nations, it does not specify the COPCs to be monitored besides Hg and Me-Hg (Table 34.5). The HHRA predicts likely exceedances of hazard quotient (HQ) and/or incremental lifetime cancer risk (ILCR) targets for As, uranium, and vanadium from multimedia exposure. It also identifies fish consumption as one of the primary contributors to health risks from these COPCs (Section 7.4.2.1.3). Therefore, if monitoring results for these COPCs exceeds predicted level in any environmental media (air, water, soil, or sediment), the COPC should be monitored in fish tissues. The Vegetation FUP proposes monitoring plants of importance to Indigenous Nations (e.g., for food) during the first five years of the operation phase (Section 34.2.7). However, it is unclear which species will be monitored and what criteria will be used to determine the monitoring duration and the project phase. The Wildlife and Wildlife Habitat FUP excludes wild meat tissue monitoring without providing sufficient justification (Section 34.2.10). Additionally, there is uncertainty how and/or when local Indigenous communities will be informed about observed changes in levels of potential COPCs in the environmental media and country foods (i.e., higher than predicted) and related impacts on human health. Developing a communication plan would strengthen transparency about the Project's impacts to the environment and human health, as well as support effective and efficient communication between the Proponent and communities.	Indigenous groups and how their feedback will be considered. The plan should also outline steps to address exceedances of established benchmarks and triggers or thresholds for adaptive management measures. It is recommended that the plan be discussed and agreed upon with potentially affected Indigenous groups. For more information about air, surface water, and country food monitoring, HC recommends that the Proponent review the following HC Guidance documents: HC. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Air Quality. Available at: https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-1-2023-eng.pdf HC. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Drinking and Recreational Water Quality. Available at: https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-2-2023-eng.pdf HC. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Country Foods. Available at: https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-5-2023-eng.pdf HC. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Human Health Risk Assessment. Available at: https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-6-2023-eng.pdf
HC-04	**Appendix C.7** Section 7.4.2.1.3 PDF p. 212 Section 7.5.4.1 PDF p. 217	**Monitor for arsenic in environmental media to address potential health risks to Indigenous peoples from fish consumption.** The IS estimates that, under the Project-alone scenario, total HQ for As is greater than the target value (0.2) within the North Driftwood River watershed and the total ILCR is greater than the target value within the North Driftwood River and West Buskegau River watersheds. However, the HHRA calculations assumed 100% of As in fish tissue was present as the more toxic, inorganic form even though its occurrence in fish tissue is primarily in relatively non-toxic organic forms and it is argued that the risk calculations for As in fish are overestimated (see Section 7.5.4.1). The total ILCR within the North Driftwood River watershed would still be greater than the target value when a more realistic assumption (i.e., 10% inorganic As in fish tissue) is applied. In	Health Canada recommends that IAAC consider the following in the analysis of the Project's effects and preparation of the Impact Assessment Report and potential conditions: 1) Monitor total As concentrations in environmental media (water, soil, sediment, and air) during the lifetime of the Project. If monitoring results indicate total As levels in any environmental media are greater than predicted in the HHRA, monitor the speciated As in fish species

		addition, HC notes that the Proponent assumed that the average consumer fish consumption rate [1] is representative of the local Indigenous peoples, as heavy consumers are unlikely to source all their fish exclusively from the three watersheds within the LSA. However, if heavy fish consumption rate is used in the ILCR calculation, the overall cancer risk values are likely to remain above the target value at the North Drift River and West Buskegau River watersheds. Health Canada also notes the HHRA incorrectly applied HC's maximum level (ML) for As in fish protein (pdf p. 212), as listed in part II of the List of Contaminants and Other Adulterating Substances in Foods. This ML does not apply to fish muscle tissue. Instead, this ML is only applicable to concentrated fish protein; a product specifically described under section B.21.027 [S] of the *Food and Drug Regulations*. Health Canada has not established MLs for As in retail seafood. The above ML, therefore, is not an appropriate reference value to determine the safety of As concentrations in fish. In consideration of the uncertainties highlighted above, and to ensure health risks to Indigenous peoples remain low, HC recommends monitoring total As concentrations in environmental media (water, soil, sediment, and air) over the lifetime of the Project to verify the predictions and to determine the effectiveness of the mitigation measures. If environmental monitoring results show that total As concentrations are greater than those predicted, monitoring of speciated As in fish species consumed by the local Indigenous populations should be conducted and the HHRA updated. if results show inorganic As in fish tissue is higher than predicted. 1. Chan, L, Receveur, O. Batal, M, David, W., Schwartz, H, Ing, A. Fediuk, K., Black, A., & Tikhonov, C. 2014. First Nations Food, Nutrition and Environment Study (FNFNES): Results from Ontario (2011/2012). Available at: http://www.fnfnes.ca/docs/FNFNES_Ontario_Regional_Report_ENGLISH_2019-10-16.pdf	consumed by local Indigenous populations and communicate the results with potentially impacted Indigenous communities. 2) If at any point, dietary exposures to total or inorganic As are determined to pose an unacceptable health risk, consumption advice may be warranted to mitigate those risks. Include the recommended consumption rates from [1] for the sensitive and general population (including heavy consumers) during these communications to confirm they accurately reflect the Indigenous communities. Preventing increases of As in environmental media (water, soil, sediment, and air) should be the preferred means of reducing As concentrations in foods.
HC-05	**Chapter 21** Section 21.4.2.3.4 PDF p. 81 Section 21.4.3.3.3 PDF p. 89 Section 21.4.3.3.4 PDF pp. 90-91	**Implement pro-active initiatives for off-duty Indigenous workers to promote their mental well-being.** The economic conditions pathway should consider working conditions beyond 'time away from home', even for a project site not located in a remote area. Main factors involved in this incomplete pathway are the various possible sources of work-related stress (e.g., shared accommodations in the nearby communities, long working hours compounded by daily commutes) and could include employment insecurity and intense labour leading to physical fatigue [1], affecting the mental and physical well-being of project workers potentially through unhealthy coping involving substance use, chronic stress, and increased risk of injuries. Equally important are the social consequences of project workers' experiences of stress that affect their family life (e.g., relationship breakdown, domestic violence), extending the effects on mental and physical well-being to household members [2]. These indirect effects would vary in intensity depending on the existing resilience of Indigenous {and non-Indigenous) workers. Even high income represents a potential source of family tension when poorly managed [3,4]. Financial management training is currently being taken up in such jurisdictions as Yukon for mining workers engaged in shiftwork and earning high wages [5]. Financial literacy is critical to navigate a miner's lifestyle and prioritize savings goals as a stress buffer concerning employment insecurity within an economically volatile mining sector [3]. The mitigation measures proposed in the IS include the Health and Medical Service Plan (HMSP) and the Employee and Family Assistance Program (EFAP) (Section 21.4.3.3.4), and are mainly focused on reactive approaches regarding the well-being needs of project workers and those of family members, once issues have already arisen. Additional mitigation and enhancement measures geared toward the promotion of positive mental well-being of the project's workforce would also reduce the risk of family issues, as a side-benefit. Pro-active training opportunities could also complement the corporate policies aimed at prohibiting negative behaviours in the workplace (e.g., alcohol and drug use, aggression), which may be triggered by stressors and therefore challenging to control at work, as well as at home. 1. Lee, F.K.S. & Zelman D.C. 2019. Boredom proneness as a predictor of depression, anxiety and stress: The moderating effects of dispositional mindfulness. Personality and Individual Differences, 146:68–75. https://doi.org/10.1016/j.paid.2019.04.001 2. Shandro, J. A., Veiga, M. M., Shoveller, J., Scoble, M., & Koehoorn, M. 2011. Perspectives on community health issues and the mining boom–bust cycle. Resources Policy, 36(2), 178-186. 3. Holtge, Jan, Linda Theron, Philip Jefferies, & Michael Ungar. 2021. Family resilience in a resource-cursed community dependent on the oil and gas industry. Family Process, 60.4, 1453–69. https://doi.org/10.1111/famp.12641 4. Baryła-Matejczuk, M., Skvarciany, V., Cwynar, A., Poleszak, W., & Cwynar, W. 2020. Link between financial management behaviours and quality of relationship and overall life satisfaction among married and cohabiting couples. International Journal of Environmental Research and Public Health, 17(4):1190.. https://doi.org/10.3390/ijerph17041190 5. Saxinger G. and Gartler S. (2017). The Mobile Workers Guide. Fly-in/Fly-out and rotational shift work in mining. Yukon Experiences. Available at : https://fifo-guide.jimdofree.com/download-the-mobile-workers-guide/	Health Canada recommends that the Proponent put in place pro-active initiatives for the off-duty Indigenous workers that promote positive mental well-being, which would be complementary to the EFAP. Mitigation measures to cultivate resilience could centre on guidance and resources for adaptive coping (i.e., positive alternatives to substance use) such as stress management techniques, shuttle services for safe and restful commuting, and financial management training for healthy spending and prudent savings. Training in life management skills, which may boost company productivity, could be offered where project workers would likely be living (e.g., City of Timmins, and the towns of Smooth Rock Falls, Cochrane and Iroquois Falls). Investments in community programs that promote socialization among project workers in their common home/host communities could provide additional means to improve their mental well-being by enabling opportunities to participate in cultural and recreational activities for physical fitness (e.g., sports) and strengthening bonds.

HC-06	**Chapter 21** Section 21.4 PDF pp. 67-96	**Identify which mitigation measure is addressing which potential effect on the physical or mental well-being of which Indigenous Nation and population group.** The information in the Project Pathways subsection is often repeated in the Project Residual Effect subsection, without indicating which mitigation measure is addressing which potential effect for which population group (e.g., women, youth). Furthermore, each Project Residual Effect subsection concludes with an overly broad characterization of the health effects at the very end of the effect pathway, be it about land use, population dynamics, employment, or community health. As such, there is a high level of uncertainty on the appropriateness and effectiveness of the proposed mitigation measures, which weakens the conclusions on residual effects for Indigenous physical and mental well-being.	Health Canada recommends listing all potential effects on physical and mental well-being for each pathway, and matching these effects (and associated pathway factors) with the mitigation measures being proposed to address them, while specifying which Indigenous Nation and population group is targeted. Second, for each combination of potential effects and mitigation measure groupings, characterize the corresponding residual effects, along with level of certainty in determining residual effect characteristics.

Please insert additional rows as necessary.

Table 2. Identification of Deficiencies and Required Clarifications in Relation to the Requirements of the Tailored Impact Statement Guidelines

Table 2 should be used to identify potential deficiencies in the Impact Statement where information from the proponent is **both** 1) missing or unclear as prescribed by the Tailored Impact Statement Guidelines **and** 2) necessary to formulate advice (Table 1) to IAAC on matters that are likely to be material and relevant to decision-making[5]. Expert advisors should consider project context and regulatory context and provide risk-proportional, solution-oriented advice.

Deficiency ID	Reference to Impact Statement	Reference to Tailored Impact Statement Guidelines	Description of Deficiency (Context and Rationale)	Advice to Proponent for Resolving Deficiency
Please identify deficiency by organization and comment number. *e.g.: HC-02*	*Identify the specific section of the Impact Statement where information is deficient.*	*Identify the specific section of the Tailored Impact Statement Guidelines where a requirement has not been satisfied.*	*Provide a brief description of the deficiency in the Impact Statement, including:* • *how it does not meet the requirements of the Tailored Impact Statement Guidelines; and* • *why the information or studies are required to formulate advice to IAAC on matters that are likely to be material and relevant to decision-making.* *Include, where relevant:* • *how the deficiency relates to an adverse federal effect or to a public interest factor including outlining the relevant pathway of effect;* • *identify the level of concern about the deficient information and implications or consequences for strength of conclusions; and* • *advice to IAAC on risk (likelihood and severity of effects), using applicable frameworks relevant to your mandate.* *Identify if the deficiency links to specific advice provided to IAAC in Table 1.*	*Provide a clear and precise description of the missing information or clarification that would resolve the issue detailed at left.* *Also provide, where applicable, other commitments the proponent can make to respond to the issue, such as:* • *offsetting or mitigation to compensate for uncertainty in baseline;* • *follow-up to verify the accuracy of predictions and effectiveness of mitigation;* • *applicable guides, standards and thresholds the proponent intends to meet; and* • *measures the proponent intends to take to comply with other legislative frameworks that provide a means to address effects.*
HC-07	**Chapter 27** Section 27.2.3.4.1 PDF p. 72	9.2.1. Biophysical determinants of health PDF p. 98	**Health Canada acknowledges the Wabun Tribal Council First Nations' request for a diet and harvest study.** Health Canada notes that the Wabun Tribal Council First Nations (i.e., Flying Post First Nation, Mattagami First Nation, and Matachewan First Nation) requested a diet and harvest study to better understand Indigenous contexts and baseline health profiles. It is unclear whether the Proponent intends to conduct such a study.	Health Canada recommends that IAAC confirm with the Proponent regarding any plans to pursue the diet and harvest study requested by the Wabun Tribal Council.
HC-08	**Chapter 13** Table 13.3 PDF pp. 12-15 Table 13.9 PDF p. 22 Section 13.7 PDF p. 54	8.5.2. Effects to the atmospheric, acoustic, and visual environment PDF pp. 56-57 8.5.3. Mitigation and enhancement measures PDF p. 58	**Develop a robust noise complaint response protocol, including any plans to consult with local Indigenous groups during its development.** The Noise and Vibration Assessment does not consider the combined noise impacts for all project-related noise sources at each receptor location. For example, R12 and R13 are only expected to experience noise effects from the rail spur line (Table 13.9). Given that the assessment may underestimate the total effects from noise exposures that sensitive receptors may experience and that several Indigenous Nations have expressed concerns	Health Canada recommends that the following information be shared with the Proponent for their consideration: Refer to HC's Noise guidance [1] when developing the proposed complaint-response plan, including any plan to consult with local Indigenous groups and community members during the development. In addition, inform the local community and potentially impacted Indigenous groups about any potentially noisy activities in advance of their occurrence.

[5] Deficiencies must be limited to information or clarifications that are necessary to formulate or substantially strengthen a conclusion related to decision-making, such as the extent to which federal effects are significant, the identification of appropriate mitigation and follow-up measures, and whether the federal effects are justified in the public interest. "Federal effects" means effects within federal jurisdiction and adverse direct or incidental effects (as defined in section 2 of the IAA). Public interest considerations are outlined in section 63 of the IAA. Comments can also be provided in relation to IAAC's obligations under section 79 of the *Species at Risk Act.*

	Chapter 34 Table 34.6 PDF p. 44		regarding project-related noise (Table 13.3), noise complaints may occur. Additionally, it is possible that sleep-related noise complaints will be received related to new rail traffic activities outside of the typical sleep time period (i.e., 10 pm to 7 am) (Section 13.7) and if locomotive idling occurs overnight. Table 34.6 proposes to develop a Noise and Vibration Management Plan which will include a complaint reporting process. However, insufficient detail is provided as to how complaints will be received and addressed. A complaints response protocol should include a formalised means of receiving and responding to complaints in a timely fashion with additional monitoring and mitigation measures defined in the event of noise-related complaints. In addition, multiple methods of communication (e.g., telephone, mail, signage, websites) can support effective and efficient communication between the Proponent and community. Furthermore, the Proponent may consider developing a communication plan to inform nearby residents of upcoming project-related activities that may cause notable changes in sound levels (e.g., blasting) as a way to mitigate noise-related complaints. Previous experience has shown that a community is more likely to be understanding and accepting of project noise, and more likely to make appropriate adjustments to limit noise exposure if it has been engaged/consulted prior to noisy project activities [1]. 1. HC. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Noise. Available at: https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-noise.html	
PHAC-01	**Chapter 21** Table 21.5 PDF p. 27 Section 21.4.3.3.5 PDF p. 91	9.1. Baseline conditions PDF pp. 95-96 9.2.2. Social determinants of health PDF p. 100 9.3. Mitigation and enhancement measures PDF p. 102	**Provide strategies to address the stigma associated with mental health supports among Indigenous male and 2SLGTBQIIA+ workers.** It has been noted that men experience higher rates of substance use and suicide than other subpopulations and may experience higher rates of mental health stigma that could prevent them from seeking support. In particular, “stigma, associated with mental health may disproportionately effect men and 2SLGTBQIIA+ persons which could result in avoidance to seek support and treatment even though Canada Nickel will provide access to an effective EFAP service. Enhancements in a supportive working culture may contribute to an increase in mental health support utilization within male dominated professions.”	Public Health Agency of Canada (PHAC) recommends that the Proponent provides details (e.g., strategies, programs) on how they will address stigma to encourage Indigenous workers to seek mental health services.
PHAC-02	**Chapter 21** Section 21.2.3.3 PDF p. 37	9.1. Baseline conditions PDF pp. 95-96	**Requested editorial change** It is noted that a useful indicator of physical health is self-assessed health, which is described as perceived physical health. For clarity and technical precision, it is suggested that the description of this indicator be edited. The Canadian Institute for Health Information notes that, “the self-rated health indicator measures an individual's perception of his or her overall health. It refers to a person's health in general—not only the absence of disease or injury but also the presence of physical, mental and social well-being.” Canadian Institute for Health Information. Perceived Health.	PHAC recommends that the text be changed to (as shown in strikethrough and bold): “A useful indicator of physical health is self-assessed health, which ~~is described as perceived physical health~~ **measures an individual's perception of their overall health.**
PHAC-03	**Chapter 21** Section 21.2.3.4.4 PDF p. 61	9.2.2. Social determinants of health PDF pp. 100-101 10.2.1. Effects to community well-being PDF p. 105	**Requested editorial change** The following sentence needs a reference: “Negative family dynamics can impact health, with children in such environments facing a higher likelihood of diseases like heart and lung conditions, obesity, and mental health issues, along with a propensity for substance abuse and addiction.”	PHAC suggests adding a reference.

PHAC-04	**Chapter 21** Section 21.4.3.1.4 PDF 85	9.3. Mitigation and enhancement measures PDF p. 102 10.2.1. Effects to community well-being PDF p. 105	**Provide justification regarding the potential benefits of shift work.** It has been noted that "This shift schedule may allow workers to spend more time with families and friends and is anticipated to reduce mental health outcomes associated with shift work."	PHAC suggests including more context to articulate why/how a shift schedule would permit more time with families and friends.
PHAC-05	**Chapter 21** Section 21.4.3.1.4 PDF p. 85	9.3. Mitigation and enhancement measures PDF p. 102 10.1.2. Services and infrastructure PDF p. 104	**Confirm the status of Timmins' Community Safety and Well-being Plan.** It has been noted that "Timmins has a Community Safety and Well-being Plan (2021) with goals including an innovative community approach to end homelessness, improved care and outcomes for residents suffering from mental health or addiction related issues, and youth-focused community programs that promote well-being, inclusivity and resiliency." Since the plan was announced in 2021, it would be beneficial to know if this approach is still active (and serves to tackle the issue of homelessness in the community).	PHAC suggests clarifying whether Timmins' Community Safety and Well-being Plan is still in place.
PHAC- 06	**Chapter 21** Section 21.4.4.3.3 PDF p. 96	11.3 Mitigation and enhancement measures PDF p. 111	**Implement Cultural Competency Training rather than Cultural Awareness Training.** It has been noted that "Canada Nickel will provide cultural awareness training, which is anticipated to enhance understanding of Indigenous history and culture and to describe the root causes of inequities that Indigenous nations experience." Cultural awareness training is a valuable starting point for enhancing understanding of Indigenous history and culture, but it may not be sufficient on its own to fully address the root causes of inequities that Indigenous nations experience, which includes learning about the impacts of colonization. Cultural competency could be an excellent next step to build from awareness, to equip workers with the knowledge and skills to work with people from diverse cultures.	PHAC suggests that the Proponent consider providing cultural competency training to all staff, rather than cultural awareness training.

Please insert additional rows as necessary.