Canada Nickel Company
Impact Statement for the Crawford Nickel Project

Technical Review

February 7, 2025

Submitted by:
Apitipi Anicinapek Nation

Contents

Executive Summary

The proposed Crawford Nickel Project is in the heart of Apitipi Anicinapek Nation (AAN) Sacred Traditional Territory and the Nation will be highly impacted by the proposed Project. As part of our engagement with Canada Nickel Company (the Proponent) AAN has undertaken a technical review of the Impact Statement for the Crawford Nickel Project with a focus on potential impacts to our Treaty and Aboriginal rights and interests.

AAN's review has highlighted several overarching concerns regarding the adequacy of consultation, potential environmental impacts, and the lack of detailed mitigation strategies. Key themes identified in AAN's review include inadequate consultation with the Province of Ontario, lack of transparency regarding contiguous mining claims, and insufficient commitment to ensuring economic benefits for AAN through employment and contracting opportunities. Environmental concerns, particularly related to air quality, mercury, sulphate, and potential impacts on aquatic ecosystems, are also of significant concern, with potential impacts on AAN's health, cultural and traditional land use, and the local environment.

The following list summarizes the key findings from AAN's technical review of the Impact Statement for the Crawford Nickel Project:

- Environmental Concerns
    - The Proponent's Conceptual Fish Habitat Offsetting Plan (CFHOP) lacks sufficient detail on habitat loss, mitigation measures, and hydraulic assessments. There is a significant gap in understanding the potential impacts of flow reductions on fish habitats, particularly downstream of the Project area. Those gaps must be filled in the Environmental Impact Statement (EIS) before it is considered complete, and filled through an updated CFHOP prepared for the EIS including: Detailed description of habitat losses, updated numbers of habitat loss based on the proposed hydraulic model, maps showing the geographic areas and layouts of proposed offsetting features, and preliminary quantification of the value of offsetting measures.
    - Exceedances of air quality standards, including particulates, trace metals, and asbestos, pose risks to AAN's health, traditional land use, and natural resources. The EIS must contain measures to ensure that the project will not exceed air quality standards and thus redesign of certain aspects of it may be necessary. It is not acceptable to plan a project to create exceedances. AAN requests the implementation of a robust and long-term air quality monitoring program to verify protection of the atmospheric

environment, including community-led monitoring during construction, operations, and closure phases of the Project. This must include input from AAN on the air contaminants monitored, the location of monitoring stations, sampling techniques/equipment, etc.

- Increased sulphate concentrations could enhance methylmercury production in local ecosystems, impacting fish and potentially human health. Gaps in baseline mercury data and insufficient consideration of these risks in the Impact Statement raise concerns. These gaps, detailed in Comments 71-84 of this report, should be filled in the EIS before it is accepted through the completion of an updated human health and ecological risk assessment for mercury and methylmercury. AAN recommends that IAAC impose a condition of approval stating that the Proponent must obtain an independent third-party peer-review of the newly completed human health and ecological risk assessment for mercury and methylmercury.

- The presence of chrysotile asbestos at the project site has been inadequately characterized, underestimating health risks associated with exposure during construction and operations. AAN requires CNC to implement more rigorous and scientifically validated asbestos detection methods for analyzing asbestos on site and in particulate matter. CNC must provide information on how asbestos emissions will be monitored during the Project. CNC must provide mitigation and adaptive management measures to address AAN concerns with asbestos emissions. We call for immediate action to address these critical issues, prioritizing the health of our community and the integrity of the environment and our people.

- Water quality assessments assume excess acidity as the primary risk, yet the more pressing issue appears to be excess alkalinity (high pH), which has not been adequately characterized. To address this shortcoming, the Proponent must analyze the long-term geochemical behavior of alkaline leachate and how it will affect downstream water quality.

- Economic Concerns

  - The Proponent's economic projections for the Project appear overly optimistic, underestimating the risks of financial instability. AAN calls for clear commitments to ensure economic benefits, particularly in the event the Project is constructed but does not operate profitably.

  - There is a lack of commitment to priority hiring of AAN members or providing contracting opportunities for AAN businesses. The Proponent has not made

explicit commitments to monitor Indigenous employment or contracting opportunities during the Project. This must be remedied by making those commitments, as well as implementing measures to effect priority hiring and retention.

- Unclear Project Details
    - The Proponent's plans for the Galna and McCool Blocks lack transparency, and these claims must be addressed as part of the Impact Assessment given their proximity to AAN's traditional lands and reserve. AAN requests that CNC relinquish their claims to these blocks and communicate to Ontario that it supports AAN's need to have them withdrawn from staking, exploration and mining activity in the future.
- Consultation Gaps
    - AAN was not properly notified or consulted at the provincial level, resulting in missed opportunities to review key permits and archaeological assessments. AAN requests a meeting with the Province of Ontario to establish a project-specific consultation and communication protocol. AAN requests a meeting with the Ministry of Mines to develop a consultation and communication protocol for the Project, to ensure AAN is properly consulted moving forward and does not miss out on opportunities to review provincial documents that may impact the Nation's rights and interests.

AAN expects continued meaningful engagement and consultation, the finalization of an Indigenous Benefits Agreement, and more detailed environmental assessments to ensure that the impacts of the Crawford Nickel Project are fully understood and mitigated.

Note that AAN may have additional comments on what is included in this review and reserves the right to submit further comments later in the consultation process.

1.0 Introduction

Apitipi Anicinapek Nation has prepared this technical review as an important part of our engagement with Canada Nickel Company (CNC; the Proponent) on their proposed Crawford Nickel Project (the Project) located near Timmins, Ontario in the heart of AAN Sacred Traditional Territory. In addition to submitting this technical review to the Proponent, we have also submitted this review to the Ontario Ministry of Mines (MINES), Ontario Ministry of Natural Resources and Forestry (MNRF) and Ontario Ministry of Environment, Conservation and Parks (MECP). While the majority of the comments in the review are the responsibility of the Proponent to address, in some instances there are comments directed to MINES, MNRF and MECP as the appropriate entity to address the potential impacts of the Project on our Aboriginal rights.

The Crawford Nickel Project is located in the heart of our Traditional Territory where our members have occupied the land since time immemorial. Our Nation has been continually challenged by a lack of proper recognition of our rights due to the forced displacement of membership from our home when we were sent to residential school. While the technical issues raised in this review are essential to be addressed by the Proponent and the Crown, this ongoing lack of proper recognition of our rights around the Crawford Nickel Project is an essential consideration throughout this review and we have written our comments and recommendations accordingly.

In this technical review, we have prepared a series of comments and recommendations on the Impact Statement with a focus on the implications and potential impacts on our Aboriginal rights and interests. These technical comments and recommendations were directly informed by input from our members, especially through the Traditional Knowledge and Land Use Study we completed for the Project.

2.0 Apitipi Anicinapek Nation

Apitipi Anicinapek Nation is an Indigenous Nation pursuant to Section 35 of the Constitution Act, 1982 and Article 32 of the United Nations Declaration on the Rights of Indigenous People, and a signatory of Treaty No. 9. AAN is an Anicinapek Nation whose members have lived continuously since time immemorial on our Sacred Traditional Territory with a documented archaeological presence of over 8,000 years. AAN continues to exercise Treaty and Aboriginal rights throughout our Sacred Traditional Territory as we have since time immemorial. Since the early days of colonization, AAN's rights to occupy and utilize our ancestral lands have been recognized.

AAN has endured persistent and intense resource development pressure from many industries in the natural resource sector, especially the mining industry. These industries have operated in blatant disregard of our Nation's inherent rights. This issue even

predates the signing of Treaty No. 9. In addition to the mining of base metals, asbestos and other mineral resources, more gold has been extracted from our Sacred Traditional Territory than any other gold producing region in Canada. The early years of mining created a legacy of severe environmental contamination with no consideration at all for AAN's inherent rights. To this day the Crown continues to authorize activities on AAN's Sacred Traditional Territory which further infringe upon our Nation's Aboriginal and Treaty Rights and Interests without our consent.

AAN never gave up our right to hold decision-making authority over our Sacred Traditional Territory. International law including the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) recognizes the right of Indigenous peoples to free, prior and informed consent over developments in their territories, and includes the right to withhold such consent. AAN is now taking steps to have these rights enforced through the initiation of a major legal case with several other Treaty No. 9 First Nations, to have the Canadian courts declare that Treaty 9 confirms jurisdiction over our lands and that our lands were never ceded, surrendered or released to the Crown.

AAN has ratified our Engagement and Consent Law which requires all proponents intending to undertake any conduct on our Sacred Traditional Territory to obtain our consent. The Engagement and Consent Law outlines the means by which proponents and the Crown must carry out engagement with our Nation. The Law also confirms that AAN consent will not be unreasonably withheld should proponents and the Crown carry out engagement in accordance with the Engagement and Consent Law.

3.0 Canada Nickel Company Crawford Nickel Project

The Crawford Nickel Project, proposed by Canada Nickel Company, is a planned open-pit nickel mine and processing facility located approximately 42 kilometers north of Timmins, Ontario, along Highway 655. This project aims to extract nickel ore, along with other valuable metals such as iron, cobalt, chromium, palladium, and platinum, over a projected mine life of approximately 30 years for mining and an additional 11 years for milling.

The mine expects to operate continuously for the life of mine, with ore processed onsite in a facility designed to handle up to 240,000 tonnes per day (tpd) at peak operation and an average rate of 160,000 tpd over the mine's life. Initially, the processing plant will manage 60,000 tpd of ore, ramping up to a maximum of 120,000 tpd. The facility will produce nickel and iron concentrates while managing waste through a Tailings Management Facility (TMF) and later by depositing tailings into depleted portions of the open pit, starting in Year 18. The TMF, covering approximately 2,300 hectares, will use

thickened tailings deposition to maximize storage capacity and reduce dam heights.

The Project requires the realignment of a 26-kilometer section of Highway 655 and a 29-kilometer segment of a 500-kilovolt (kV) transmission line to accommodate the full development of the open pit. Additionally, a new 25-kilometer rail spur will connect the site to the Ontario Northland Railway, allowing for the transport of nickel and magnetite concentrates to external processing facilities.

Canada Nickel plans to implement measures such as In-Process Tailings (IPT) Carbonation technology, to enhance carbon dioxide sequestration in the tailings. By injecting CO_2 into tailings during processing, this method is expected to store over one million tonnes of CO_2 annually. Water management systems will also be constructed to ensure non-contact water is diverted and contact water is treated before discharge. Recycled water will supply much of the project's needs, with additional water sourced from pit dewatering and site runoff.

Canada Nickel anticipates that the Project will contribute to local economic development by providing employment and business opportunities for Indigenous and non-Indigenous communities in the region. The Project aligns with federal and provincial regulations and incorporates measures to mitigate potential impacts on wildlife, water, and land resources.

The Project footprint includes forested lands and watercourse realignments, spanning portions of the Jocko Creek, North Driftwood River, and West Buskegau River watersheds. Surface water management will address hydrology and water quality in these areas. Canada Nickel has proposed plans to progressively reclaim affected areas throughout the project's operational life, including the TMF, stockpiles, and other infrastructure no longer in use, as well as restoring depleted portions of the pit after tailings deposition. Situated near key infrastructure such as provincial highways, high-voltage transmission lines, and rail networks, Canada Nickel plans to utilize these existing features to support project operations and transport materials.

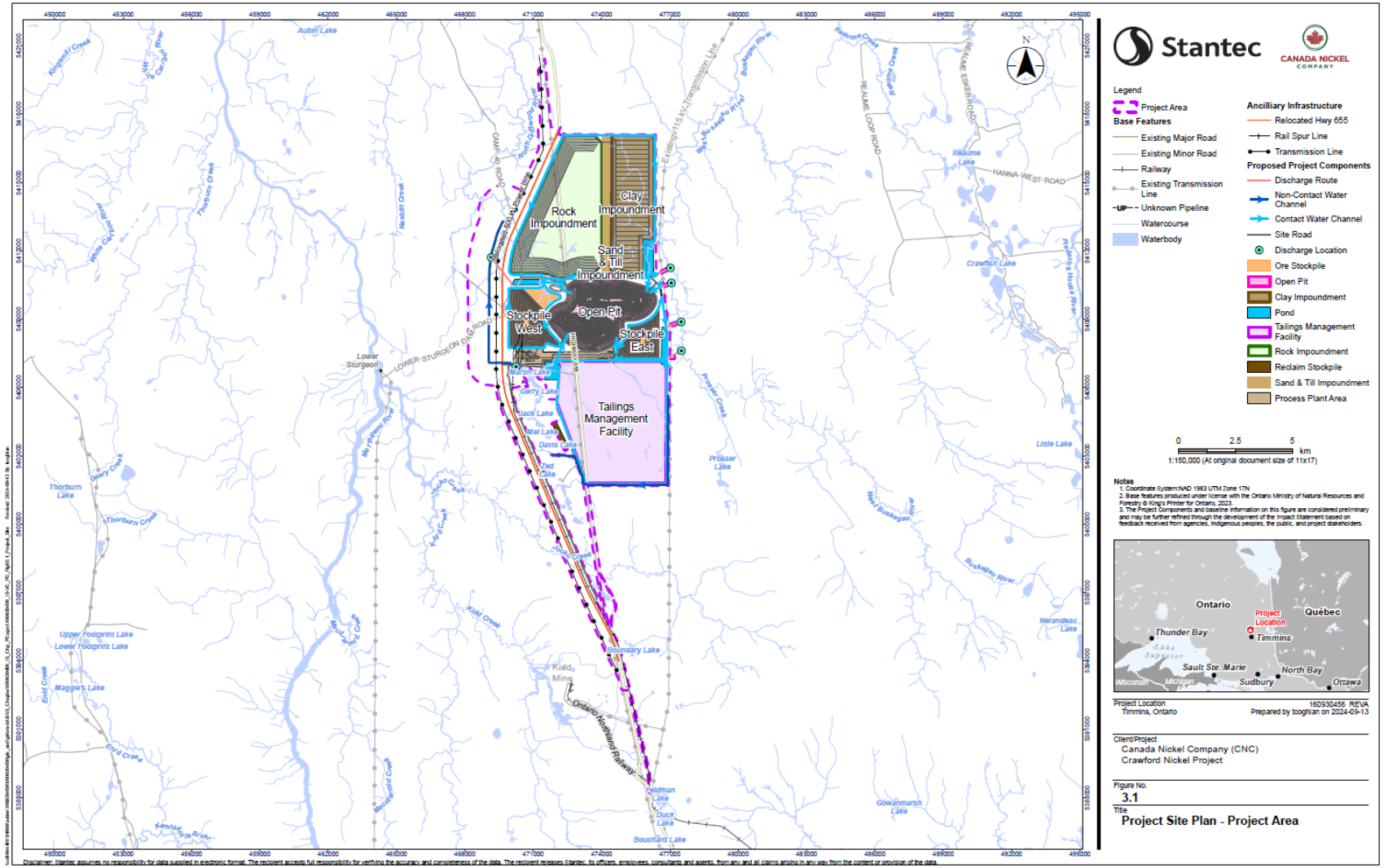

Figure 1: Map of the Crawford Nickel Project footprint (from CNC Crawford Nickel Impact Statement)

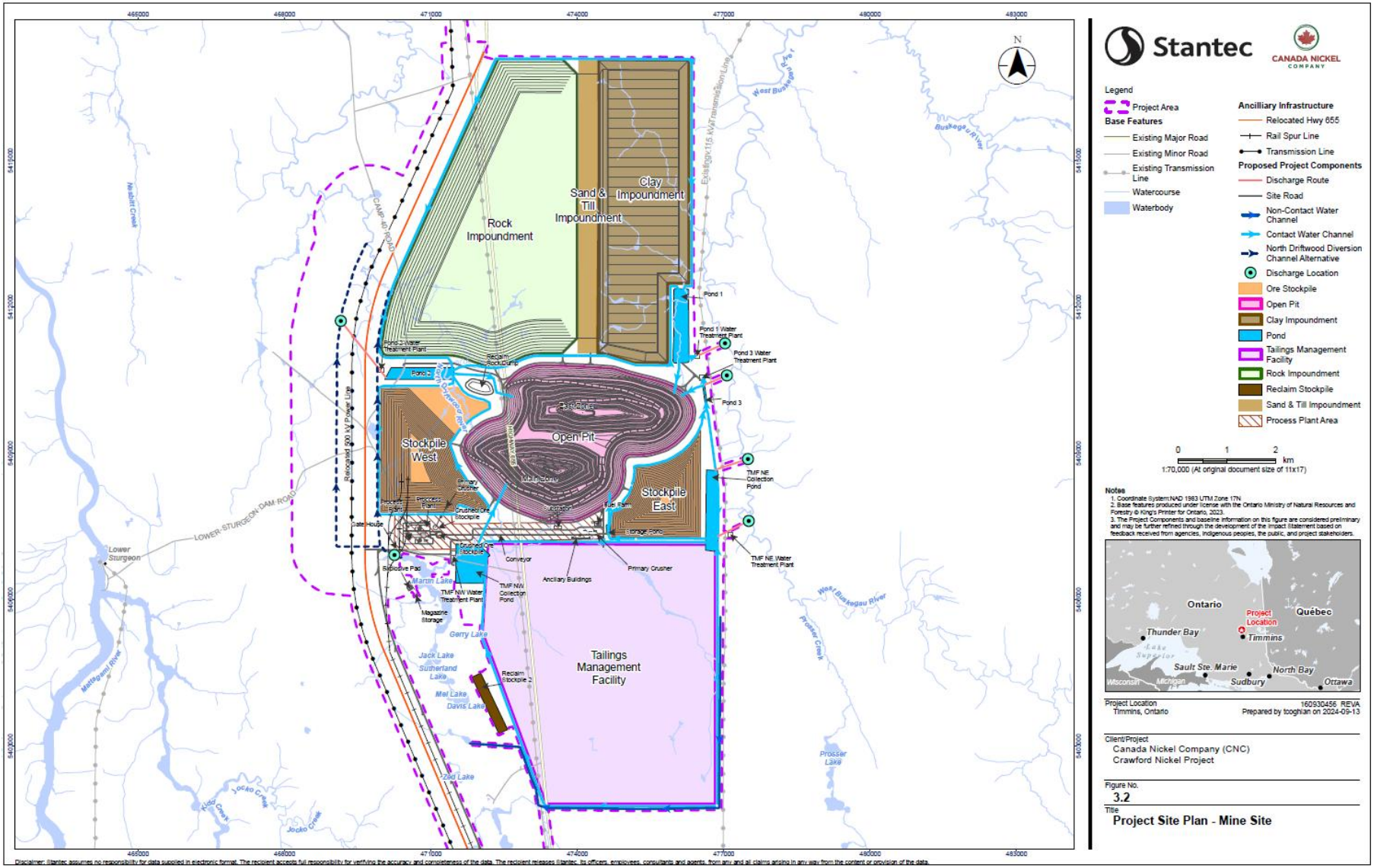

Figure 2: Site configuration of Crawford Nickel Project (from CNC Crawford Nickel Impact Statement)

4.0 Community Engagement: Indigenous Knowledge and Land Use Study

AAN has undertaken an Indigenous Knowledge (IK), Land Use and Occupancy Study (the Study) to assist with assessing the scope and magnitude of impacts of the Crawford Nickel Project on our Treaty and Aboriginal rights. The Study documents AAN's historic, current, and desired future use of the Study Area (within 50km of the Project footprint as defined in the Study), capturing the perspectives and insights of community members regarding their relationship with the land, its resources, and cultural practices.

4.1 Summary of Findings

The Study involved interviews with 20 AAN community members. In total, 439 values were mapped, including sites of land use, Indigenous Ecological Knowledge (IEK), and occupancy. Of these, 89 sites were identified within the Study Area. The Study Area is used for hunting, fishing, gathering, and cultural practices as part of AAN's inherent Aboriginal and protected Treaty rights. The results clearly show that AAN has significant historical, current, and future ties to the land, and these connections are threatened by the proposed Crawford Nickel Project.

Key findings from the Study include:

- **Land Use**: Participants identified 142 land use sites, 26 of which are located within the Study Area. The most commonly harvested species for personal and commercial use within the Study Area include moose, partridge, rabbit, and blueberries. Members expressed that the area around the Project is excellent habitat for moose, and that historically, AAN members utilized the area more frequently. However, since the development of the Kidd Creek Mine, members have significantly reduced their harvesting in the area due to concerns about contamination. AAN members strongly believe that a new, larger mining operation will lead to further avoidance of the area due to both real and perceived contamination.

- **Indigenous Ecological Knowledge (IEK)**: The Study identified 133 IEK sites, with 53 located within the Study Area. These sites represent critical ecological features, including mammal habitat for moose, black bear, and other species, as well as bird habitat for partridge. AAN members have intimate knowledge of the land and its ecosystems, which is valuable for informing baseline studies and monitoring. However, many members also highlighted the decline in wildlife populations since the construction of the Kidd Creek Mine and Highway 655. This decline has diminished the availability of resources for harvesting and traditional

practices.

- **Cultural Sites and Occupancy**: Participants identified 164 occupancy sites, 10 of which are within the Study Area. These include cabins, overnight structures, and trails used for hunting, trapping, and cultural purposes. Some members noted that they grew up in the Study Area and used it for ceremonial gatherings. However, much of the knowledge regarding precise locations of sacred and historical sites has been lost, partly due to the legacy of residential schools. Despite the loss of intergenerational knowledge, AAN members still use cabins and trails within the Study Area, and the proposed Project would significantly impact these sites.

The findings of the Study underscore AAN's concerns regarding the potential impacts of the Crawford Nickel Project on our Treaty and Aboriginal rights. The Project threatens to further reduce AAN's ability to exercise these rights in our Sacred Traditional Territory, an area already significantly impacted by past developments such as the Kidd Creek Mine and Highway 655. These developments have caused severe declines in wildlife populations, water quality, and access to traditional resources, fostering a deep mistrust among AAN members. The proposed Project would exacerbate these issues, further limiting land use and cultural practices, and compounding the cumulative environmental and psychological impacts on the community. The Study highlights the urgent need for significant mitigation measures, including the restoration of ecological balance and the protection of AAN's rights, culture, and Sacred Traditional Territory, should the Project proceed.

5.0 Technical Review of the Draft Closure Plan

AAN has undertaken a technical review of the Impact Statement for the Project including the appendices made available by the Proponent. This technical review is focused on potential impacts to AAN rights and interests and includes an examination of information gaps, deficiencies in data, underrepresentation of potential effects, inadequate monitoring, and lack of involvement of AAN. Recommendations have been written to identify means by which the Proponent and/or the Crown can address the potential impacts to AAN rights and interests through commensurate avoidance, mitigation, accommodation and/or compensation measures.

5.1 Summary of Key Findings

The key findings from AAN's technical review of the Impact Statement are summarized below:

- Wildlife Impacts: Habitat loss, fragmentation, and increased road and rail infrastructure pose risks to wildlife populations. Wildlife-vehicle collisions will rise,

and habitat degradation will threaten the long-term viability of various species within the project area.

- Contamination of Traditional Foods: The project will create new pathways for contaminants to enter traditional food sources, further endangering the safety of fish, game, and plants that AAN relies on for sustenance and cultural practices.

- Hydrological Changes, Habitat Loss, and Moose Impacts: The large-scale footprint of the project will result in extensive ecological disruptions that extend well beyond the immediate project area. Large-scale vegetation clearing, dewatering, and excavation will reshape the hydrology of the region, drying out wetlands and altering water flows that sustain critical habitat. Wetlands play a key role in moose survival, providing essential forage, cover, and calving areas. As these ecosystems degrade, moose will be forced into drier, fragmented landscapes with reduced food availability and increased exposure to predators and human activity.

- The Proponent has only assessed the quantity of asbestos minerals informally and has very likely dramatically understated the risks of asbestos exposure from the Project.

- All of the chemistry water quality assessments operate with the assumption that the risks from the project are from excess acidity, however it appears that the primary water quality risks are from excess alkalinity (high pH) which has not been at all properly characterized in the Impact Statement

- The Proponent's Conceptual Fish Habitat Offsetting Plan (CFHOP) is currently in a very early stage of development, with limited detail provided at this point. While it identifies potential offsetting measures, it lacks critical information on the magnitude and specific characteristics of habitat loss, as well as the proposed offset areas and their ecological value.

- The Proponent has not conducted a hydraulic assessment to evaluate the effects of flow reductions on fish habitat within the Local Study Area (LSA). As a result, there is a significant gap in understanding the potential extent of habitat loss, particularly downstream of the Project area. Without this critical assessment, it is impossible to quantify the full impact on fish habitat or to develop appropriate mitigation strategies

- The Project is anticipated to generate air quality exceedances for a variety of air contaminants including particulate (SPM and PM10), aluminum, muscovite, manganese, benzo(a) pyrene, and respirable crystalline silica. In some cases, these exceedances are several 100 times over the regulatory limit. These air quality exceedances, especially as they relate to dust (particulates including trace

metals, asbestos, and RCS), have the potential to impact AAN health, traditional land use, ceremonial/medicinal plants, wildlife, and water resources.

- CNC has poorly characterized the presence of Chyrsotile Asbestos (asbestos) contained in the bedrock on-site, and airborne asbestos contained in Project-related particulate matter during construction and operations. CNC relied exclusively on visual inspections of core samples to quantify asbestos levels. This method is prone to inaccuracies, potentially leading to a mischaracterization of asbestos present at the site. The human health implications of such underestimations are profound, especially given the known risks associated with asbestos exposure.

- CNC provides no information on how it intends to monitor air quality during all phases of the Project, nor any details about which air contaminants it intends to monitor and how. CNC does not specify how AAN will be involved in air quality monitoring during construction, operations and closure phases of the Project.

- The In-Process Tailings (IPT) Carbonation Process relies on CO2 from external industrial emitters, with key uncertainties including lack of confirmed agreements with CO2 suppliers, unaddressed risks related to CO2 availability, unclear scalability from pilot to project scale, and insufficient explanation of how pilot-scale results demonstrate feasibility for full project implementation.

- The IPT carbonation process has the potential to alter the tailings geochemical properties, a process that is not well detailed in the Impact Statement. CNC needs to provide a comprehensive assessment of carbonation-induced geochemical changes, develop detailed mitigation strategies for any identified risks, and establish robust monitoring and adaptive management plans to address potential unintended environmental consequences.

- The region is naturally sensitive to ecosystem effects from mercury (i.e., elevated fish mercury concentrations) given that mercury concentrations in rock, sediment and water around the Project site are relatively low/"normal" for Ontario. Though the Impact Statement does not contain methylmercury data in soil, sediment or wetlands to help know for sure, it is likely that the significant coverage of wetlands in the area contribute to the high mercury concentrations observed in fish. This is because wetlands are known "hot spots" for natural microbes to convert small levels of mercury in the environment into the methylmercury form, which is the form of mercury that mostly accumulates in organisms. Additionally, aquatic ecosystems in the region are relatively low productivity (for example, less likely to see algal blooms) and are mostly "tea-stained", indicating a relatively high amount of dissolved organic matter in the water. Elevated dissolved organic matter can preserve more of the methylmercury in a lake or river because it

protects the methylmercury from being degraded by sunlight. Relatively low productivity in lakes results in greater transfer of methylmercury from water into the base of the food chain. Collectively, this leads to the relatively high mercury concentrations observed in fish in the region, but relatively low mercury concentrations in the region's rivers and lakes.

- Mercury concentrations in the rock that will be brought to the surface and waste rock that will be stored on the surface, are fairly low and do not differ much from the concentrations in sediment in the region. Lab-based studies also show that not much mercury is likely to be released from waste rock and tailings when runoff is generated from rainfall and snowmelt interacting with them, though one study suggests mercury concentrations in the North Driftwood River could go up. From the data available in the Impact Statement, The proportion of the total amount of mercury in the region that might be transformed into methylmercury remains unclear and it is likely that the Impact Statement does not take into consideration all of the possible ways that methylmercury formation could be enhanced by mine activities.

- As presented in the Impact Statement, there is a small (~9%) increase in streamflow methylmercury concentrations expected due to organic soil flooding when the proposed diversion of a portion of the North Driftwood River is completed. This is the only cause-effect mechanism presented in the Impact Statement to affect methylmercury concentrations. Possible future changes to fish mercury concentrations, as well as to human and ecosystem health risk related to mercury, are all based on this small and localized impact from the mine activities.

- Based on water quality modeling, sulphate concentrations are expected to increase by up to ~300 or more times in seepage and discharges to local rivers from mine activity. Background sulphate concentrations in local rivers are approximately 1 mg/l on average. Predictions in the Impact Statement vary from an additional 10 or less mg/l to more than 300 mg/l depending on the river and on the flow scenario modelled (low flows and average flows were both modelled), but in general, increased sulphate concentrations are expected. In the Impact Statement, these increases are not considered within the "Parameters of Potential Concern" because sulphate concentrations are predicted to still remain a little under guideline values for sulphate. These guideline values for sulphate only consider direct health effects, such as laxative effects in humans (500 mg/l) or direct toxicological effects from sulphate to aquatic organisms (~300 mg/l in the BCMEE), and do not consider the indirect, but known effects of sulphate on mercury cycling.

- The substantial predicted increases in sulphate concentrations as well as increased total mercury concentrations in water of the North Driftwood River could lead to an additional mechanism for greater methylmercury production than is currently assessed or mentioned in the Impact Statement. Sulphate reducing bacteria (bacteria that essentially "breathe" sulphate instead of oxygen), which inhabit wet environments everywhere, are known, strong transformers of inorganic mercury into methylmercury in the environment. Many scientific studies have shown strong relationships between additional sulphate and large increases in the concentration of methylmercury in soil and water. Greater total mercury concentrations can also lead to more methylmercury. There is no consideration of this possible mechanism in the Impact Statement and therefore it is also not currently considered in predicting future possible impacts on fish concentrations or risk to human health.

- There remain a few key parts of the environment that have not been measured for both total mercury and methylmercury concentrations as part of the Impact Statement. Soils, including wetland and riparian soils, as well as wetland water, have not been measured for either total mercury or methylmercury content. Stream/river sediment has been measured for total mercury content, but not for methylmercury content. Angling fish and forage fish have been measured for total mercury and methylmercury content, but not benthic macroinvertebrates or base food chain organisms (e.g., plankton and periphyton). Without a more extensive understanding of these concentrations under baseline (pre-mine construction) conditions, it will be difficult to tease apart the cause or location of methylmercury trouble spots should methylmercury concentrations in fish or water increase due to increased sulphate loading into the local ecosystem.

- The Project appears to be far less economically viable than the Proponent has stated in the Impact Statement. The Proponent must develop commitments with AAN that ensure benefits to our Nation if the Project is constructed but does not operate profitably (with environmental impacts occurring regardless of profitability).

- The Proponent has dramatically understated the risks of the Project given the precarious economics of the Project and truly immense scale within a very sensitive watershed.

- When the Project was first proposed, the federal government scoped AAN as a potentially impacted nation, but the Province of Ontario did not. This has resulted in a lack of notification and consultation with AAN at the provincial level, jeopardizing the Nation's rights and interests. On more than one occasion, AAN has not been informed of critical provincial permits that have the potential to

impact AAN's Aboriginal and Treaty rights. This includes missing the opportunity to review draft versions of archaeological assessments, in an area that has historical, current and future value to AAN. A meeting between AAN and Ontario is required to develop a Project-specific consultation and communication protocol for the Project, to ensure AAN is consulted appropriately on provincial matters related to the Project moving forward.

- Concerns remain regarding a lack of transparency around the relationship between the Project and the Galna Block and McCool Block, which are contiguously linked to the Crawford Project via intermediary mining claims that CNC holds. Due to the contiguity of these claims, exploration activities undertaken on the Crawford Project can be applied as assessment work to all the contiguous claims held by CNC. The Galna Block is situated in an area of particularly high AAN traditional land use and occupancy, and the McCool Block is immediately adjacent to AAN's reserve. There is a concern that CNC may hold these claims until it can advance them towards development. These blocks must be considered as an impact to AAN within the federal Impact Assessment process and greater transparency is required regarding CNC's intentions with these blocks and their relationship with the current Project.

- AAN requires CNC to continue discussions with the Nation towards finalizing an IBA to ensure AAN is accommodated for the Project's impacts that cannot be mitigated against.

- AAN has completed a Traditional Knowledge Study related to the Project and is in the process of completing supplemental socio-economic research. There is a need for heritage-related assessments to be updated with information from AAN's Traditional Knowledge Study; relatedly, the Impact Statement should be updated with the results of AAN's forthcoming supplemental socio-economic research.

- CNC does not commit to priority hiring of AAN members.

- CNC does not commit to priority contracting opportunities for AAN businesses and AAN member owned businesses.

- CNC does not commit to monitoring Indigenous employment and contracting during the Project.

5.2 AAN Comments and Recommendations on the Impact Statement for the Canada Nickel Crawford Nickel Project

#	Document Reference	Comment	Recommendation
General Comments			
1.	General Comment	AAN has raised significant concerns with the Province of Ontario regarding its inadequate consultation with AAN on this Project. When the Project was initially proposed, the federal government scoped AAN as a potentially impacted nation, but the Province of Ontario did not. This has resulted in a complete lack of notification and consultation with AAN at the provincial level, jeopardizing the Nation's rights and interests. On more than one occasion, AAN has not been informed of critical provincial permits that have the potential to impact AAN's Aboriginal and Treaty rights. This includes the opportunity to review draft versions of archaeological assessments, in an area that has historical, current and future value to AAN. This lack of formal engagement is unacceptable to AAN.	AAN requests a meeting with the Ministry of Mines to develop a consultation and communication protocol for the Project, to ensure AAN is properly consulted moving forward and does not miss out on opportunities to review provincial documents that may impact the Nation's rights and interests.
2.	General Comment	AAN has significant concerns related to the Crawford Nickel Project's implications for AAN's rights, jurisdiction, and cultural integrity. Of particular concern are the mining claims held by Canada Nickel Company (CNC) on the Galna Block and McCool Block, and the potential impacts these claims will have on AAN should the project be approved for construction. While these blocks appear geographically separate from the Crawford Project, they are in fact connected through intermediary claims held by CNC, which establish a	A. AAN requests that CNC relinquish their claims to these blocks and communicate to Ontario that it supports AAN's need to have them withdrawn from staking, exploration and mining activity in the future. B. AAN requests MINES to work with our Nation to withdraw these areas permanently. C. AAN requests that IAAC consider the continued maintenance of the Galna and McCool blocks by CNC as a material impact to AAN rights within the scope of the federal Impact Assessment.

		contiguous link between the blocks and the Crawford site. As a result, exploration activities at the Crawford Project can be applied to satisfy the assessment work requirements for these contiguous claims. This creates a scenario where the Crawford Nickel Project would indirectly facilitate the long-term maintenance of the Galna and McCool claims, securing their status over the life of the Crawford operation. The Galna and McCool Blocks are situated in areas of exceptionally high traditional land use and occupancy for AAN, with the Galna Block being integral to our community's cultural practices, traditional land-based activities, and environmental stewardship. The McCool Block is immediately adjacent to AAN's reserve land and community, playing a critical role in maintaining AAN's rights, culture, and way of life. AAN has made it clear to CNC on multiple occasions that we oppose any exploration or development activities on these blocks, and we cannot accept the continued maintenance of these claims under the Crawford project's influence. This situation is deeply concerning and is causing significant psycho-social-cultural stress to AAN, as the long-term maintenance of these claims undermines our legal assertion of jurisdiction over our Sacred Traditional Territory, as outlined in our ongoing legal action filed in Ontario Superior Court in June 2023. The potential for these claims to be developed towards mining operations further compounds this stress, and AAN cannot allow this to occur.	

3.	General Comment	AAN completed a Traditional Knowledge Study which documented evidence of the Nation's historic, current and desired future use of the Study Area. The Study demonstrated that should the proposed Project proceed; the Nation will lose the ability to meaningfully exercise its Treaty and Aboriginal rights in a significant part of the Nation's Sacred Traditional Territory. AAN has similarly raised numerous concerns related to the Project in ongoing technical reviews and consultation processes. The impacts to the Nation must be accommodated.	AAN requires CNC to continue discussions with the Nation towards finalizing an IBA to ensure AAN is accommodated for the Project's impacts that cannot be mitigated against.
4.	General Comment.	As AAN has stated numerous times, the Crawford Nickel Project is an undertaking of extraordinary magnitude and scale, with a proposed open-pit operation spanning over 11,785 hectares and an expected mine life of 41 years. The scale of ore extraction — up to 240,000t per day — places this development among the largest of its kind in Canada. While the project aims to implement mitigation strategies, the scale inherently amplifies environmental risks, including extensive habitat loss, alteration of migratory patterns, significant hydrological disruptions, and long-term impacts on water quality. Large-scale mining operations inherently pose proportionally greater environmental challenges due to: • Water Contamination Risks: The exceptionally large volumes of contact water present significant risks even at relatively low concentrations of contaminants due to the limited assimilative capacity of the proposed receiving watercourses and the costly nature of modifying operations to reduce impacts.	A. AAN requests that the Crown commit to co-drafting conditions of approval for the Project with AAN to ensure that a proactive approach to preventing environmental contamination is taken in all aspects of the Project, and that the conditions are commensurate with the magnitude of the Project. B. AAN requests that the Proponent commit to establishing an AAN Environmental Monitoring Committee (EMC) for the life of the Project having regular input and oversight of the Project. The Proponent should commit to maintaining funding and support for the EMC during periods when the mine is under temporary care and maintenance. C. AAN requests that the Proponent and the Crown provide our Nation with funding and support to undertake a fulsome, AAN-led, AAN Territory-wide cumulative effects assessment that will allow our Nation to properly assess and understand the impacts of the Project on our rights and interests.

		• Tailings and Waste Rock Management: The high tonnage of extracted material will result in immense engineered facilities that will fundamentally and permanently alter the landscape, creating an immense environmental liability on the landscape that will have a permanent risk of dam/embankment failure and release of contaminants into adjacent watercourses. • Cumulative Effects on the Regional Ecosystem: The large footprint extends the zone of disturbance far beyond the immediate project area, affecting not only local biodiversity but also AAN land use, traditional harvesting, and culturally significant sites. The massive scale of the operation will have dramatic psycho-social impacts on our members who will have further deteriorated ability to trust that the lands and waters of our Sacred Traditional Territory are safe for the exercise of our Treaty and Aboriginal rights. AAN also wishes to remind the Proponent and the Crown that our Nation has asserted jurisdiction over our Sacred Traditional Territory in the legal action launched in Ontario Superior Court in June 2023 (court file number CV-23-00701700-0000). We cannot allow Canada to approve of a Project without our consent for the Project. The scale of the Crawford Nickel Project necessitates an exceptionally robust approach to environmental protection, mitigation, and accountability. Environmental protection at Crawford must be proactive as it is much easier to prevent than to remediate. As such, the Proponent and the Crown must establish environmental protection measures that reflect the inherent risks	D. AAN requires IAAC to confirm that they will not make a decision on the Project until our Nation has formally consented to the Project through a signed Impact-Benefit Agreement with the Proponent.

		associated with the immense scale of the Project. Furthermore, the Crown must not approve the Project without our Nation's consent if Canada is to recognize our Nation's rights, interests and jurisdiction.	
5.	Chapter 25 Table 25.4 and 25.6	AAN strongly asserts that the Crawford Nickel Project will have profound impacts on our Nation's rights, interests, and way of life. Unfortunately, the model by which the Impact Assessment process assesses impacts to rights does not effectively characterize impacts to AAN's rights through an Indigenous lens. Historically, an AAN member held the trapline where the Crawford Project is located prior to the establishment of MNRF traplines. Our members have a deep and long-standing connection to the lands and waters at the Crawford Project which will be fundamentally and permanently altered when the Project is developed. AAN members continue to exercise their rights extensively around the Project area, particularly downstream in the North Driftwood and West Buskegau Rivers. These areas are renowned for their high-quality fishing, especially sturgeon fishing at the mouth of the West Buskegau River, and our members rely on these resources for food, ceremonial, and cultural purposes. The Proponent's current assessment of impacts to AAN fails to meaningfully characterize the profound impacts that the Nation will experience through the development of the Crawford Project.	A. In recognition of the fact that our Nation is already suffering a profoundly deteriorated ability to exercise our rights in our Territory and each additional new Project is a further imposition on our Nation, AAN requests that the Proponent increase the magnitude of impact to AAN in Tables 25.4 and 25.6 to "high" for all categories. B. AAN requests that the Crown engage with our Nation as a highly impacted Nation and work with our Nation to identify mitigation and accommodation measures afforded by the Crown in the Crown consultation and accommodation report for the Project.
6.	Chapter 29	AAN has reviewed the Chapter 29 of the Impacts Statement for the Crawford Nickel Project, and we have	A. AAN requests that the Proponent and the Crown provide our Nation with funding and support to

		significant concerns regarding the cumulative effects assessment approach taken by the Proponent. The chosen approach, which identifies interacting activities and assesses whether they interact cumulatively, falls short in accurately capturing the full range of cumulative impacts on our Sacred Traditional Territory. The interacting-project approach focuses on identifying specific projects that interact with the Crawford Nickel Project. However, this approach focuses strictly on visible interactions between projects. This oversight can lead to a significant underestimation of cumulative impacts by virtue of the extent to which land is increasingly taken up in the region and stressors are accumulating in invisible ways that are observed by AAN members. The cumulative effects assessment has a distinct lack of Integration with Traditional Knowledge and relies heavily on Western scientific methods and data. This approach neglects to integrate traditional knowledge and perspectives of our Nation, which are essential for understanding the complex relationships between our traditional territory and the cumulative impacts of multiple projects and activities which were expressed extensively in our Traditional Knowledge Study prepared for the Project.	undertake a fulsome, AAN-led, AAN Territory-wide cumulative effects assessment that will allow our Nation to properly assess and understand the impacts of the Project on our rights and interests. B. AAN understands that this AAN-led cumulative effects assessment may take longer than the timeline for the Impact Assessment for the Crawford Project. As such, AAN requests that the Crown and the Proponent make conservative assumptions, based on the Indigenous Knowledge of AAN members, on the magnitude of cumulative impacts of the Project on our ability to exercise our Treaty and Aboriginal rights and interests.
7.	Chapter 24	AAN finds that the residual effects of the Crawford Nickel Project have been dramatically understated in the assessment. The proponent's conclusions often downplay the true scale and significance of the impacts, particularly in the following ways:	A. AAN requests that the Proponent and the Crown provide our Nation with funding and support to undertake a fulsome, AAN-led, AAN Territory-wide cumulative effects assessment that will allow our Nation to properly assess and understand the impacts of the Project on our rights and interests.

		Cumulative effects are minimized by being assessed in isolation from each other: The assessment treats residual effects in isolation rather than considering the combined impact of multiple developments in the region. The presence of other mining projects, forestry operations, and infrastructure expansions in the area suggests a much greater cumulative burden on water, land, and wildlife. Irreversible loss of traditional lands: The assessment fails to fully account for the long-term consequences of the permanent destruction of a vast area of our Sacred Traditional Territory. While progressive reclamation is proposed, the reality is that the landscape will not return to its pre-development state and the natural landscape will be permanently destroyed in exchange for a mine altered landscape. Underestimation of water contamination risks: The immense volume of tailings and waste rock material is expected to have unusually high pH effluent, which will result in geochemical behaviors not typically seen at other mine sites. The Proponent has strictly looked at impacts to water quality from the risk of acid rock drainage, but not from potentially toxic alkaline drainage. Impacts on fish habitat are downplayed: While the proponent proposes habitat offsetting measures, there is no guarantee that artificial fish habitats will provide the same ecological functions as the destroyed natural habitats. While Proponents typically make efforts to create equivalent habitats as those that are lost, this almost never occurs in reality.	B. AAN understands that this AAN-led cumulative effects assessment may take longer than the timeline for the Impact Assessment for the Crawford Project. As such, AAN requests that the Crown and the Proponent make conservative assumptions, based on the Indigenous Knowledge of AAN members, on the magnitude of cumulative impacts of the Project on our ability to exercise our Treaty and Aboriginal rights and interests. C. AAN requests that the Crown impose a condition of approval that mandates an AAN-led environmental monitoring committee that has legal authority to ensure Proponent compliance with permit obligations and committed mitigation measures. Note that this will include commitment and requirements that are defined within the Impact-Benefit Agreement between AAN and the Proponent

		Air quality and human health risks are unclear: The assessment acknowledges that particulate matter levels will exceed regulatory thresholds in some areas but then dismisses these exceedances as "infrequent." Given the presence of asbestos in the waste rock and ore at Crawford and the fact that this material has only been assessed visually, there is a high likelihood that the potential risks to human health from dust have been dramatically understated. Without addressing these fundamental gaps, the residual effects assessment does not provide an accurate representation of the true long-term impacts of the project. If AAN is to support the profound residual and cumulative impacts that our Nation will experience as a result of the Project, the Proponent will need to do substantial work to mitigate our concerns and both the Proponent and the Crown will need to work with our Nation to accommodate the residual and cumulative impacts that cannot be mitigated.	
Aquatic Ecology			
8.	17.2 Existing Conditions for Fish and Fish Habitat; Appendix B.8.2, Figure 2-1	The Proponent has invested considerable effort into characterizing the aquatic environment within the Project Area. This includes a large geographic area where multi-season, multi-method surveys have been undertaken for field sampling. However, this major effort is necessary given the extreme scale of the project and in fact, falls short. Even with the large area studied, there have been relatively few surveys of aquatic habitat within the LSA, other than sampling in the West Buskegau River (Appendix B.8.2., Figure 2-1). Nearly all field studies (at least for 2021-2023 sample	AAN requests additional field surveys, outside of the Project area and within the LSA, in the following locations: • North Driftwood River, downstream of the Project area • Jocko Creek, between the Project area and the confluence with Mattagami River • West Buskegau River, to the northeast of the Project area. All surveys should include sampling of: • Habitat Assessments • Sediment • Benthic; and

		locations) have been focused within the Project area and on aquatic habitats that are expected to be permanently destroyed due to overprinting. This is especially true for fish community sampling events. As a result, it will be challenging for follow up monitoring to identify changes or trends in the areas of the LSA where future monitoring will be located.	• Fish community These include areas where effects of the project (other than the destruction of habitat due to overprinting) will be felt. It is crucial that these areas be surveyed in more detail so that indicators of fish and fish habitat (habitat type, quality, benthic abundance/diversity, and fish community, CPUE, etc.) can be compared with pre-development baselines.
9.	17.4.4 Summary of Project Residual Effects	The proponent has proposed multiple alternatives for the location of the North Driftwood Diversion Channel to divert non-contact water around the Project area. Two primary options are currently being considered, one to the east and a second to the west of the Highway 655 corridor. For the purpose of the effects assessment, the west option was carried forward as it would have a larger footprint and (therefore it is assumed) a greater impact. The Proponent has not demonstrated sufficient supporting evidence on the feasibility of constructing this channel and ensuring it will support the intended function. For example, given the overprinting of a large area within the North Driftwood watershed, it is unclear that there will be sufficient flow to maintain suitable flows year-round to support the species found with the area.	AAN requests that the Proponent assess and describe the proposed North Driftwood Diversion Channel in more detail. This should include an evaluation of depth and flow during various conditions. This can be included as part of the proposed hydraulic modelling described in "17.6.3 Additional Data".
10	17.4.3.3.1 Project Residual Effects – Increase in Total Suspended Solid Concentrations	Mine water management will direct 24-hour storm events up to the 100-year return period to be managed in collection ponds and the open pit for temporary storage. Flows greater than the 24-hour 100-year return period will be directed to the receiving environment through the emergency overflow spillway. Such an event would result in a dramatic spike in sedimentation, erosion, and increase of total suspended solids.	AAN requests that the Proponent explore the feasibility of containing water from a 100-year event within sedimentation ponds on site, rather than emergency release through the spillway. This measure can reduce downstream flooding risks and protect downstream fish habitat.

		AAN notes that it would be preferable to have water management infrastructure on site sized so that discharge to the pit or the environment are unnecessary outside of the most exceedingly unlikely scenarios. This would result in the pit being used for discharge only under the most extreme scenarios and would mitigate the effects of the event on the receiving environment including bank erosion and sedimentation, and simplification of the downstream channel structure.	
11	17.4.3.3.2 Change in Water Quality	The Proponent has not provided sufficient discussion or analysis of how the Project may result in increased loading of phosphorus in either the North Driftwood River or the West Buskegau River. Information on nitrogen loadings to the North Driftwood River (nitrate and nitrite) was discussed in Section 17.4.3.3.2 (Change in Water Quality) but there is no information on phosphorus. It is unclear whether this is because it was evaluated elsewhere and deemed a low risk or whether this is an oversight. For example, phosphorus concentrations in effluent are evaluated in Section 15.4.3.3.1 (Table 15.7) but there does not appear to be an assessment of other sources of phosphorus, such as sedimentation, dust fall, seepage or runoff. The absence of comprehensive data on phosphorus levels in the assessment raises significant concerns. Phosphorus is a key nutrient that, in excessive quantities, can lead to eutrophication, causing harmful algal blooms and subsequent oxygen depletion in water bodies. This can have detrimental effects on aquatic ecosystems, leading to fish kills and loss of biodiversity.	AAN requests additional details on how the potential effects of phosphorus from the project have been assessed. This should include information on the cumulative loadings from sedimentation, dustfall, effluent, wastewater and land use changes associated with the Project may contribute to increased phosphorus in the North Driftwood River and the West Buskegau River.

		Without detailed information on phosphorus concentrations and their sources, it becomes challenging to develop effective management and mitigation strategies. Identifying the primary contributors to phosphorus loading, such as sedimentation, runoff, or wastewater discharges, is crucial for implementing targeted measures to reduce inputs. Additionally, understanding seasonal variations and the transport mechanisms of phosphorus within the watershed is essential for accurate modeling and prediction of water quality trends.	
12	17.6.3 Additional Data and 17.7 Assumptions	The Proponent has assumed that flow changes from the project would not result in dewatering of watercourses in the LSA, downstream of the Project. This is a glaring gap in the assessment as no hydraulic modelling was completed. The Proponent has committed to doing hydraulic modelling in the North Driftwood River and the West Buskegau River. This will aid in assessing habitat loss and alteration from flow reductions in areas downstream of the Project. AAN supports this hydraulic modelling but questions the timing of the assessment. How is the Proponent able to adequately evaluate the potential effects on fish habitat without this information?	AAN requests that the assessment of effects on fish habitat and fish health be revised once the hydraulic modelling is completed. This will also require associated modifications to the Conceptual Fish Offsetting Plan (CFHOP).
13	17.4.4 Summary of Project Residual Effects	The proponent has not considered habitat loss as a significant residual effect because it is assumed that there will be sufficient opportunities in the region for habitat offsetting. This is a major assumption that is not necessarily true. Other mining projects in northern Ontario have often	AAN requests that habitat loss for the Project be carried forward as a significant residual effect until the Proponent can demonstrate the effective implementation of compensation measures in a more meaningful way.

		faced significant challenges in identifying adequate offsetting opportunities. Even where sufficient habitat area (or productivity) can be achieved, it typically requires the development of alternate habitat types. For example, low order waterways are often compensated through the development of lakes and ponds. These habitats do not provide the same type of habitat or support the same ecological niches.	The loss of habitat for this Project is massive and developing an appropriate compensation plan will be an extremely difficult challenge. Until the Proponent can demonstrate with more confidence that habitat compensation will be achievable, it is necessary that habitat loss be considered as a residual effect.
14	Appendix M – Conceptual Fish Habitat Offsetting Plan	The Proponent has prepared a Conceptual Fish Habitat Offsetting Plan (CFHOP) associated with the project to mitigate the effects of habitat loss associated with overprinting and flow reductions from the Project. The CFHOP has identified several potential offsetting measures based on preliminary assessments to date. The CFHOP is extremely preliminary and provides very little detail on proposed offsets or potential habitat area/value that would be offset. AAN is not able to meaningfully comment on the CFHOP until more details are available.	A. AAN requests that an updated CFHOP be prepared for the EIS. This should include: • Detailed description of habitat losses, including an assessment of habitat type, function, and productivity (including the habitat units for focal fish species, such as provided in Table 17.6 and 17.7). • Updated numbers of habitat loss based on the hydraulic model proposed in Section 17.6.3 • Maps showing the geographic areas and layouts of proposed offsetting features • Preliminary quantification of the value of offsetting measures B. AAN requests that the Proponent commit to co-developing an engagement process with AAN focused on the development of the Fish Habitat Offsetting Plan. This is important as the development of the Fish Habitat Offsetting Plan is expected to extend beyond the scope of the Impact Assessment. This should include: • Presentations on the CFHOP and proposed offsets • Engagement with AAN staff • Opportunities for review and comment by AAN on more detailed versions of the Fish Habitat Offsetting Plan

			• Opportunities to meet with representatives of CNC and DFO • Community engagement
Terrestrial Ecology			
15	Chapter 16 section 16.4.2.1	The proponent's assessment that edge effects are limited to 120 meters is an overly conservative estimate that likely underrepresents the true extent of indirect effects, particularly given the magnitude and scale of the proposed mine. While localized microclimatic changes, such as increased wind exposure, higher light levels, and temperature fluctuations, will be noticeable within the immediate vicinity of the cleared edge, the indirect effects often extend much farther, driven by broader hydrological and ecological dynamics (Maanavilja et al., 2014). Vegetation clearing disrupts critical hydrological processes such as evapotranspiration, runoff, and groundwater recharge. These disruptions often extend across watersheds, altering wetland hydrology and potentially reducing water availability for vegetation communities far beyond 120 meters especially given the Project Area and LSA predominantly consists of wetland (Leclair et al., 2015). Furthermore, dewatering and changes to groundwater flow can substantially lower water tables, resulting in the drying of adjacent wetlands and significant alterations to their ecological functions, well beyond the immediate zone of clearing activities (Wei et al., 2022).	AAN requests that this issue be revisited during the Mine Development Closure Plan.
16	Chapter 19, Section 19.4.1.4 Change in Wildlife Health	AAN is deeply concerned about the contamination of traditional species on our lands, including both aquatic and terrestrial species that are vital to our cultural	A. AAN requests to be actively involved in all aspects of the Ecological Risk Assessment to ensure the unique

		practices, sustenance, and way of life. The long history of mining activity in the region has left a lasting environmental footprint, with pollutants persisting in the ecosystem and impacting the health of our traditional foods. For decades, the community has been left in the dark about the full extent of these impacts, fostering deep skepticism and concern regarding the presence and ongoing release of contaminants into the environment. The lack of transparency and monitoring over the years has exacerbated the community's mistrust. AAN has witnessed the cumulative effects of industrial activity, including habitat degradation, water quality declines, and disruptions to ecosystems that sustain key species such as fish, game, and plants used for traditional medicines and food. These changes not only threaten the physical health of our people but also our spiritual and cultural connections to the land. The enduring uncertainty about how contaminants interact with our environment and bioaccumulate in traditional food sources further heightens our concern. Without robust and community-informed monitoring programs, it is impossible to fully understand the risks posed by these contaminants or to ensure the safety of the resources that AAN depends on.	knowledge, concerns, and priorities of our community are fully integrated into the process. B. AAN requests that a comprehensive Traditional Food Study be conducted to evaluate the current levels of contamination in culturally significant species, including fish, game, plants, and other traditional food sources critical to AAN's way of life. The results of this study must be shared transparently with the community and used to inform mitigation and monitoring efforts to protect these resources for future generations
17	Chapter 19, Section 19.4.2.2 Mitigation Measures	AAN acknowledges Canada Nickel's commitment to developing a Construction Environmental Protection Plan and Wildlife Management Plan that prioritizes species and sensitive habitats. However, it is crucial that these plans include AAN's traditional knowledge to ensure they reflect the unique ecological and cultural context of the area.	AAN requests to be actively involved in the development and implementation of the Construction Environmental Protection Plan and Wildlife Management Plan, with the opportunity to provide meaningful input throughout the process. To facilitate this participation, Canada Nickel

		The identification of critical timing windows and sensitive habitats should be informed by AAN's lived experience and deep understanding of the land.	should provide appropriate financial resources to support AAN's involvement in these processes.
18	Chapter 34, Section 34.2.10 Wildlife and Wildlife Habitat	AAN has a deep and enduring connection to the land and the animals that sustain our way of life, and we are gravely concerned about the potential loss of habitat and the decline of important species. The substantial losses of wetland and upland habitats that support furbearers, moose, and other culturally significant species highlight the broader impacts of the project on the ecosystem that AAN relies on. This loss, compounded by decades of legacy impacts, raises serious concerns about the long-term viability of these species and the health of our traditional lands. Monitoring is essential to accurately quantify these impacts and implement effective measures to address them, ensuring the sustainability of our lands and resources for future generations.	AAN requests to be actively involved in the follow-up and monitoring programs related to wildlife and wildlife habitat, as outlined by Canada Nickel. This includes participation in targeted species surveys to track relative abundance and spatial distribution, as well as contributing traditional knowledge to ensure that monitoring efforts align with AAN's priorities and cultural values. AAN further requests to be engaged in the development and implementation of adaptive management measures informed by these monitoring results, ensuring that mitigation strategies remain effective over time.
19	Chapter 16 Section 16.4.2.3.1 Plant Species at Risk and Species of Conservation Concern	A) The proponent's assumption that Black ash will not experience any direct or indirect adverse effects due to its location more than 120 meters outside the Project Area fails to account for the species' hydrological sensitivity. Black ash depends on stable wetland conditions with consistent water levels to survive and thrive. These trees typically grow in low-lying, saturated soils such as swamps, floodplains, and other wetland environments, where periodic flooding helps maintain the unique soil conditions necessary to prevent competition from less water-tolerant species. Any disruption to these hydrological conditions, including changes to the water table, can severely impact their growth and survival. Mine operations, including dewatering, are predicted to cause water	AAN recommends that as part of the Environmental Wildlife Management Plan, Canada Nickel should include a dedicated vegetation management section that focuses on the monitoring, protection, and enhancement of Black ash populations. This section should include: • A monitoring program to regularly assess Black ash populations and the emergence of Emerald Ash Borer (EAB). • Strategies for habitat enhancement, such as wetland restoration projects, replanting efforts in suitable areas, and seed collection.

		table drawdown extending beyond 120 meters from the Project area, potentially lowering water levels in nearby wetlands. Such changes in hydrology could lead to indirect impacts such as reduced soil moisture, altered wetland functions, increased sedimentation, and changes in wetland structure. These factors threaten the viability of Black ash and the ecosystems they support. Furthermore, the proponent acknowledges that effects on Black ash and rare vegetation communities may be understated due to the difficulty of conducting comprehensive surveys. It is likely that additional populations of Black ash persist elsewhere within the Local Study Area (LSA), suggesting that they will be directly and indirectly adversely impacted. B) The proponent does not adequately address the potential for increased activity to provide a pathway for the Emerald Ash Borer (EAB) to invade the site and broader region. Currently, the site lies outside the presumed climatic range of EAB (MECP 2022); However, given the extended timeline of the mine and the impacts of climate change, including rising temperatures, the Emerald Ash Borer (EAB) is likely to expand its range northward over time. Warmer conditions reduce overwintering mortality rates and lengthen the growing season, creating suitable habitats for EAB in areas previously unaffected. Increased traffic and material movement associated with the mine could further facilitate the introduction and spread of EAB, posing a significant threat to Black Ash populations and emphasizing the need for proactive prevention and monitoring strategies.	• Mitigation measures to prevent the introduction and spread of EAB, including traffic and material movement controls and proactive efforts such as treatment or removal of infected trees. • An adaptive management framework with clear triggers for additional measures if monitoring indicates adverse effects, ensuring the long-term protection and sustainability of Black ash populations and their habitats. AAN should have the opportunity to review and provide input into this vegetation management plan to ensure it aligns with the community's cultural values, priorities, and ecological knowledge.

20	Chapter 19 Section 19.4.2.2 Mitigation Measures	Boreal caribou are a culturally significant species to AAN, deeply connected to our traditions, values, and stories. These animals rely on large, unfragmented landscapes of mature boreal forest and lichen-rich peatlands to survive. The cumulative effects of anthropogenic disturbances, including habitat loss, fragmentation, increased predation risk, and other human activities, have exerted immense pressure on the Kesagami (ON8) range. AAN takes impacts to boreal caribou seriously, recognizing their cultural and ecological significance and the critical need to protect and restore their habitat.	A) AAN asserts that this project should be subject to the requirement for an Overall Benefit Permit (OBP) under the Endangered Species Act to address impacts on boreal caribou habitat and urges the proponent to commit to completing the work required under the permit. The OBP is a vital tool to ensure that the project delivers a net benefit for this culturally and ecologically significant species. While AAN acknowledges that the determination of an OBP requirement ultimately rests with MECP, AAN requests that Canada Nickel commit to fulfilling the obligations required under an OBP, ensuring an overall net benefit to caribou regardless of MECP's determination. This commitment would demonstrate accountability and a meaningful effort to mitigate the project's impacts on boreal caribou and their habitat. B) As part of the Wildlife Management Plan and OBP, Canada Nickel should commit to linear feature restoration efforts in the northern portion of the ON8 range, where caribou populations are still active. These restoration efforts are essential to improve habitat connectivity, reduce predator efficiency, and support caribou recovery in an area critical to their survival. This commitment would demonstrate Canada Nickel's accountability in mitigating cumulative effects and ensuring the long-term viability of boreal caribou in the region.
21	Chapter 29 Section 29.13 Assessment of Cumulative Effects on Wildlife and Wildlife Habitat	Wildfires have a profound impact on vegetation communities and wildlife, fundamentally altering ecosystems by destroying habitat, reducing food availability, and creating fragmented landscapes. Wildfires can lead to the loss of mature forests, wetlands,	AAN recommends that the cumulative effects assessment be revised to account for the impacts of wildfires and climate change on vegetation communities and wildlife. This assessment should evaluate how increased wildfire

		and peatlands, which are essential for maintaining biodiversity and supporting species that rely on stable, intact habitats. Wildfires can displace animals, disrupt migration and breeding patterns, and increase mortality risks through direct exposure or predation in newly fragmented areas. Climate change is expected to exacerbate these impacts by increasing the frequency, intensity, and size of wildfires. These changes further threaten the recovery and persistence of sensitive vegetation communities and wildlife species by compounding the effects of other anthropogenic disturbances, such as habitat loss and fragmentation from industrial development. Given the significance of these impacts, it is essential to incorporate wildfire risk and its interaction with climate change into cumulative effects assessments.	frequency, intensity, and size—exacerbated by climate change—may interact with project-related impacts.
22	Chapter 29 Section 29.13 Assessment of Cumulative Effects on Wildlife and Wildlife Habitat	Hunting and fishing exert significant pressure on AAN's traditional land use, directly impacting the availability of culturally significant species and the sustainability of these practices. The cumulative effects assessment acknowledges hunting and fishing as contributing factors to impact on wildlife, it is unclear whether the assessment adequately accounts for both existing and future hunting and fishing activities. Furthermore, there is no clear indication that the assessment considers the increased hunting and fishing pressures likely to arise due to the mine's presence and the region's growing population. Increased access, infrastructure development, and a rise in human activity associated with the mine could lead to	AAN recommends that the increased hunting and fishing pressures resulting from a growing community associated with the mine and other developments be explicitly identified and addressed as a cumulative effect within the cumulative effects assessment.

		greater competition for resources and further strain on traditional land use.	
23	Chapters 11 & 16 - 19	AAN is interested in exploring training opportunities to build capacity for future habitat restoration and mitigation efforts. Training should focus on equipping community members with the skills and knowledge necessary to actively participate in and lead restoration and mitigation activities. This could include technical training on habitat restoration techniques (e.g., reforestation, wetland restoration, and erosion control), wildlife monitoring and management, and the integration of Indigenous Knowledge into restoration and mitigation practices.	The proponent should commit to collaborating with AAN to develop and fund training programs that support capacity building. This collaboration could include: • Workshops and hands-on training for habitat restoration and monitoring techniques. • Opportunities to integrate cultural and ecological priorities into restoration plans. • Employment opportunities for AAN members in restoration and monitoring activities. • Ongoing technical support to ensure the long-term success of restoration efforts.
24	Chapter 19 Section 19.4.4.2 Mitigation Measures	The mitigation strategies outlined do not currently include measures to limit construction activities at night, which could significantly reduce light and noise pollution impacts on nocturnal species. Nighttime construction activities can disturb species by disrupting their natural behaviors, such as foraging, mating, and migration. Additionally, increased vehicular traffic at night poses a heightened risk of wildlife collisions, particularly with large mammals like moose. Such collisions not only threaten wildlife populations but also present safety risks to workers and project personnel.	AAN recommends that the proponent commit to restricting or minimizing construction activities during nighttime hours, where practically feasible.
25	Chapter 19 Section 19.4.4.2 Mitigation Measures	The mitigation strategies include several measures to protect turtles, such as timing restrictions for vegetation clearing and setbacks for nests and overwintering sites, they do not account for the use of turtle exclusion fencing. Exclusion fencing is a well-established method to prevent turtles from entering construction zones or	AAN recommends the Inclusion of turtle exclusion fencing as a mitigation measure in the Construction Environmental Protection Plan and Wildlife Management Plan. The fencing should be: • Installed in high-risk areas, such as along roads and near sensitive turtle habitats.

		crossing roads, reducing the risk of mortality from vehicle collisions and other disturbances.	• Designed to guide turtles to safe crossings, such as culverts or underpasses, ensuring connectivity between habitats. • Regularly inspected and maintained to ensure effectiveness throughout the construction phase.
26	Chapter 19 Section 19.4.4.2 Mitigation Measures	The mitigation strategies mention wildlife-friendly road and railway design principles, such as crossings for small wildlife and speed limits, but they do not specifically address considerations for reducing moose activity near roads and railways. Incorporating features to discourage moose from approaching transportation corridors and ensuring safe crossings can significantly reduce the risk of wildlife-vehicle collisions and habitat fragmentation.	AAN recommends that the proponent ensure that wildlife-friendly road and railway design explicitly incorporates strategies tailored to larger species like moose. These considerations should be integrated into the planning and design phases and may include: • Crossings: Designing and placing wildlife underpasses or overpasses in known moose travel corridors to facilitate safe crossings and maintain habitat connectivity. • Maintaining Clear Sightlines: Regularly clearing brush and tall vegetation near road edges to improve driver visibility and allow more reaction time if moose are present. • Managing Roadside Features: Avoid creating or maintaining conditions that attract moose, such as standing water, salt licks, or forage-rich patches near roads. • Deterrent Barriers: Where feasible, install fencing or deterrent structures to discourage moose from entering high-traffic areas.
Water Resources and Geochemistry			
27	General Comment	The West Buskegau River watershed is a relatively small and sensitive hydrological system that is already facing significant industrial pressures. The Crawford Nickel Project will discharge contact water into this watershed, adding to the cumulative impacts from existing and proposed	A. AAN requests a holistic assessment of the West Buskegau River to understand the hydrological, geochemical and aquatic impacts of the Project to the River. Note that the other comments in AAN's review related to water resources, geochemistry and

		mining activities. Given the limited capacity of the watershed to absorb industrial discharges without degradation, the introduction of multiple mining operations raises serious concerns about long-term water quality, hydrological stability, and ecological integrity. Key Concerns: Cumulative Industrial Burden: The Crawford Nickel Project is not the only mine proposed in the watershed, meaning its impacts must be assessed in conjunction with other planned developments. Indigenous Rights and Uses: AAN exercises its rights within this watershed, including traditional harvesting and cultural practices, which could be disrupted by changes in water quality and hydrological patterns. Critical Sturgeon Spawning Habitat: The confluence of the West Buskegau River and the Frederick House River, located downstream, supports an important sturgeon spawning area that is highly likely to be affected by changes in sediment loads, water flow, and potential contaminants from mine effluent. The small size of the West Buskegau River watershed necessitates a cautious and precautionary approach to development to prevent impacts to aquatic life downstream and to AAN's ability to exercise our Treaty and Aboriginal rights and interests.	mercury need to be incorporated to ensure that this assessment is accurate and fulsome. B. AAN wishes to remind the Proponent that it was not our Nation's preference to discharge effluent to the West Buskegau River, and that impacts to our Treaty and Aboriginal rights and interests from the Project are greater as a consequence of this decision. If the Proponent determines that the majority of Project effluent will be discharged to the West Buskegau River as is proposed, the accommodations afforded to our Nation form the Proponent and the Crown must incorporate these heightened impacts.
28	Appendix H	The In-Process Tailings (IPT) carbonation process proposed for the Crawford Nickel Project represents a novel approach to CO_2 sequestration in tailings. However, there remains a significant lack of transparency regarding the	A. AAN requests that the Proponent publish detailed geochemical studies and reaction models to clarify the long-term stability and potential risks of IPT-treated tailing. These details should be incorporated into the

		chemical reactions involved and the resulting byproduct mineralogy. While pilot testing has been conducted, the long-term geochemical behavior of the tailings after IPT carbonation remains completely, raising concerns about unknown environmental risks. For example, there are trace concentrations of various contaminants in the minerals that will be altered through the IPT technology which will potentially be liberated into solution through the IPT process. The mineralogy of the byproducts is also highly consequential. If the byproduct mineralogy is primarily oxide minerals, these minerals may be subject to reductive dissolution in the tailings once covered. Conventional static and kinetic geochemical testing (such as the methods used by Canada Nickel) are biased towards assessing the risks of sulphide oxidation and do not accurately assess the potential of reductive dissolution liberating contaminants from oxide minerals, especially over the long term as conditions at depth become progressively more anoxic. The lack of presentation of the mineralogical and geochemical characteristics of the IPT processed tailings presents a substantial risk from the lack of disclosure and assessment of the IPT byproduct mineralogy and the long-term geochemical kinetics.	geochemical modelling for the Crawford Project. B. In case IPT carbonation creates unintended geochemical risks identified through geochemical modelling, alternative tailings management approaches should be identified and prepared. Note that these alternatives may be a substantive change to Project design and operation, depending on the mineralogy and water quality of tailings, and consequent fate and transport of contaminants of tailings. C. AAN requests that the Crown impose a Condition of Approval mandating the Proponent to undertake a full risk assessment of IPT carbonation, including potential worst-case scenarios for chemical instability and environmental leaching, and designing alternatives to mitigate unforeseen risks associated with IPT carbonation.
29	Appendix B.13 and Appendix H Figure 9.	AAN is deeply concerned about the inadequate methodology used to assess asbestiform minerals in the Crawford Nickel Project. The current mineral assessment relies primarily on visual estimation, which is an inherently	A. AAN demands that the Proponent entirely re-do the asbestiform mineral assessment to undertake a more rigorous and defensible method for quantifying asbestos minerals in the ore and waste rock. This analysis must include a quantitative assessment of the

		subjective and imprecise method for identifying and quantifying hazardous asbestos minerals. One of the most critical shortcomings of the assessment is its failure to differentiate between serpentine and amphibole asbestos minerals. While serpentine asbestos (chrysotile) is the dominant type identified, the absence of a rigorous mineralogical analysis means that more hazardous amphibole fibers (e.g., tremolite, actinolite, anthophyllite) could be present but undetected. Unlike chrysotile, amphibole asbestos fibers are significantly more persistent in the lungs when inhaled and pose a far greater health risk. Furthermore, Figure 9 in the Geochemistry Characterization Report (Appendix H) states that 55–65% of waste rock is composed of serpentine minerals and 85-90% of tailings minerals are serpentine (without distinguishing between whether the serpentine is asbestos or not). However, the Asbestiform Mineral Assessment (Appendix B.13) asserts that only a small percentage of waste rock contains serpentine asbestos. This potential contradiction raises serious concerns about the accuracy of asbestos risk assessments, particularly given the health and environmental hazards posed by asbestos dust. Additionally, the total percentage of asbestos present does not accurately reflect the actual exposure risk. The host rock is highly likely to fracture preferentially along asbestos-rich veins. This means that: a. Asbestos fibers will be disproportionately released as dust during mining, crushing, and transport, regardless of their bulk concentration in the ore.	proportion of serpentine and amphibole asbestos minerals, and whether this varies spatially in the deposit (e.g. near contacts with dykes). B. The Proponent must reassess the air quality modelling with conservative assumptions around preferential fracturing of blasts on asbestos mineral dispersion, incorporating findings from the quantitative mineral assessment of asbestiform minerals in the deposit. C. AAN requests that the Crown (IAAC) require the Proponent to re-do their asbestiform mineral assessment as requested.

		b. Even low overall concentrations of asbestos in the rock could result in high airborne fiber exposure due to preferential fracturing. c. The visual estimation method does not account for fiber dispersal potential, meaning airborne asbestos exposure could be dramatically greater than anticipated. The reliance on visual asbestos estimation alone is unacceptable for a project of this massive scale. AAN strongly urges the Proponent and the Crown to adopt scientifically rigorous testing and enhanced mitigation measures to prevent severe health and environmental consequences. Without these changes, the project poses unacceptable risks to AAN members working at the mine site.	
30	Table 31.4 (Summary of Accidents and Malfunctions Risk Analysis)	AAN strongly disagrees with the proponent's assessment in Table 31.4, which states that the likelihood of a water diversion failure is "very low." Recent experience in Ontario demonstrates that water diversion structures are vulnerable to failure, particularly when dealing with long diversion channels, variable hydrological conditions, and climate-related extreme weather events. Given the substantial length and complexity of the proposed North Driftwood Diversion, AAN asserts that the risk associated with the water diversion failure is significantly underestimated.	AAN requests that the Proponent revise their risk assessment for water diversion failures to at least medium.
31	Appendix H Figure 39	AAN is concerned that the high paste pH levels observed in geochemical characterization pose a greater risk of alkaline contamination rather than the more commonly discussed acid rock drainage (ARD) risks. Many waste rock samples show paste pH values exceeding 9.5, with	A. AAN requests that the Proponent analyze the long-term geochemical behavior of alkaline leachate and how it will affect downstream water quality. Specific focus should be placed on metal hydroxide transport and

		some exceeding 10. Tailings humidity cell tests show pH values stabilizing around 9.5. This strongly suggests that alkaline drainage is a real and significant environmental risk, yet it has not been adequately addressed in the proponent's Impact Assessment. AAN notes that the Provincial Water Quality Objective for pH is 6.5-8.5, so it appears that effluent may exceed this limit. Key Concerns: High pH Affects Aquatic Ecosystems: Alkaline drainage (pH >9) can disrupt aquatic life for many reasons, including the fact that ammonia is present in its highly toxic unionized form at much higher concentrations in alkaline water (CCME 2010). The proponent has not demonstrated how effluent discharge will ensure pH stabilization for highly alkaline conditions before entering natural waterways. Increased Mobility of Metal Hydroxides: At high pH, metals such as chromium, aluminum, and uranium become more mobile due to the formation of metal hydroxides. SFE testing already indicates elevated chromium and copper mobility under alkaline conditions, exceeding Provincial Water Quality Objectives (PWQO) and Canadian Council of Ministers of the Environment (CCME) guidelines. The fate and transport of these contaminants under high pH conditions remain uncertain, as no detailed modeling has been presented. Lime-Related Risks from Clay Stockpiles: The use of lime to stabilize clay stockpiles is expected to generate drainage with a pH above 10, compounding the risk of metal leaching. This suggests that alkaline leachate could persist	accumulation in sediments and biota. B. Given the unusual effluent chemistry expected from the Crawford Project, AAN requests that the Proponent analyze the potential impacts to the receiving aquatic environment utilizing a biotic ligand model (BLM) to understand metal bioavailability and toxicity from Project effluent.

		over time and impact water quality beyond the expected operational life of the mine.	
32	Appendix H Table 21 and 22	AAN is concerned about the disproportionately high concentrations of boron in waste rock leachate (from dunite and peridotite) compared to its levels in the ore. Shake Flask Extraction (SFE) tests show notable boron release from waste rock, whereas boron in the ore itself does not appear to be a significant concern. Given that dunite and peridotite waste rock also show high paste pH values (9–10.5), it is likely that boron is becoming more soluble in alkaline conditions. This raises additional concerns about the long-term behavior of boron in seepage water and potentially harmful loading of boron into the receiving environment.	A. AAN requests that the Proponent undertake a supplementary investigation on the relationship between high pH conditions and boron leaching rates. B. AAN requests that the Ontario Ministry of Environment, Conservation and Parks (MECP) impose limits on boron in all effluent discharge permits for the Project. C. AAN requests additional information to understand the discrepancy between boron leaching in waste rock and in tailings that is based on the supplementary investigation.
33	Appendix H Section 3.1.3.2 (Elemental Analysis)	AAN notes that high concentrations of aluminum, copper, nickel, phosphorus, vanadium, chromium, and zinc have been identified in tailings. However, there is a critical gap in understanding their mineralogical form, which directly impacts their potential for solubilization and mobility in the environment. Additionally, tailings that have undergone In-Process Tailings (IPT) carbonation appear to have not been subjected to mineralogical testing. This omission introduces significant uncertainty about how metals in tailings may behave post-carbonation, particularly in high-pH conditions where certain metals (e.g., aluminum, chromium, and vanadium) may become more mobile. Without mineralogical characterization, it is unclear whether these metals are present in stable silicate minerals or more reactive oxide/sulfide forms that could leach into water over time. High-pH conditions in tailings	A. AAN requests that the Proponent analyze dunite and peridotite samples using scanning electron microscopy (SEM) or similar technology to determine the mineral phases of aluminum, boron, copper, nickel, phosphorus, vanadium, uranium chromium, and zinc. This should be done on tailings that have undergone the IPT carbonation process. B. AAN requests that the Proponent provide a supplementary geochemical report based on the findings of the SEM work on tailings that discusses the short- and long-term fate and transport of metals in tailings based on the mineral phases of contaminants and the metals that are likely to dissolve (or precipitate under the long term redox and pH conditions expected in the tailings facility.

		(above 9.5) may lead to increased mobility of metals such as aluminum, chromium (VI), and vanadium, which are known to be more soluble at alkaline pH. If metals are present in forms that are readily leachable, they may migrate through groundwater and surface water, affecting aquatic ecosystems and drinking water sources. The long-term behavior of these metals under site-specific conditions (e.g., tailings aging, oxidation, water cover effects) has not been adequately modeled. The Proponent must address this lack of mineralogical characterization in tailings, particularly post-IPT treatment. Without this data, the true risk of metal mobilization remains unknown, potentially leading to long-term contamination risks for the surrounding environment and Indigenous communities.	C. The Proponent should conduct long-term humidity cell tests to track how IPT-altered minerals weather over time under the reducing conditions reasonably expected in tailings (both in-pit and in the TMF).
34	Appendix H Table 45	AAN is concerned that it appears that Shake Flask Extraction (SFE) testing was only conducted on a single peridotite tailings sample, while no SFE tests were performed on dunite tailings. Given that dunite is the dominant lithology of the tailings, this omission leaves a significant gap in understanding the short-term leaching behavior of key metals and contaminants. This contradicts the recommendation in Section 5.0 of the Geochemistry Baseline Report, which states that dunite should be the primary focus of geochemical analysis. Dunite tailings have been shown to produce highly alkaline leachate (pH 9.6–9.8), which may increase the solubility of metals such as chromium (VI), aluminum, and vanadium. Without SFE data, it is unclear how much of these metals could be mobilized under short-term weathering	A. AAN requests that the Proponent conduct Shake Flask Extraction (SFE) tests on multiple dunite tailings samples to determine the short-term leaching potential of metals and contaminants. This should be done on tailings that have undergone the IPT process. Relevant documents in the Impact Statement must be updated based on the findings of the additional test work. B. AAN requests that the Proponent review the SFE data for both dunite and peridotite tailings in PHREEQC (or similar software) to understand the aqueous phases of contaminants of potential concern in solution. This will help to provide a fulsome understanding of the fate and transport of contaminants in the tailings. C. AAN requests that the Crown require SFE testing on both peridotite and dunite tailings as a prerequisite for

		conditions. AAN notes that the data presented in Table 45 of Appendix H indicated that chromium is highly elevated in tailings SFE results which appears to be pH controlled as evidenced by the correlation between pH and chromium in solution. This lack of SFE sampling is a significant gap in geochemical characterization. Without SFE testing on dunite tailings, there is insufficient data to predict early-stage leaching behavior, which is essential for understanding immediate water quality risks at the Project site.	regulatory approval of the Project.
35	Appendix H Page 629	AAN is concerned about the relatively high frequency of vanadium exceedances observed in geochemical testing. Given vanadium's known mobility in circumneutral to alkaline conditions, its presence in mine waste, tailings, and water discharge could pose long-term environmental and human health risks if not properly managed. Vanadium has been detected in elevated concentrations in waste rock and tailings leachate, exceeding Provincial Water Quality Objectives (PWQO) in multiple samples. Unlike many metals that precipitate out at high pH, vanadium remains highly soluble in circumneutral to alkaline waters (pH 7–10). Under these conditions, vanadium can migrate through groundwater and surface water, potentially accumulating in aquatic ecosystems and drinking water sources. Given that high-pH conditions (above 8.5) are common in tailings and waste rock drainage, there is a heightened risk of vanadium remaining in its more mobile form (vanadate, V^{5+}), which is more bioavailable and toxic.	A. AAN requests that the Proponent perform supplementary studies to determine the dominant oxidation states of vanadium (V^{3+}, V^{4+}, V^{5+}) in mine-affected waters to better predict its environmental fate and transport. B. Assess vanadium adsorption potential in tailings and natural sediments under site-specific conditions. C. AAN requests that the Proponent undertake pilot water treatment testing to ensure that they have technology readily available to remove vanadium and other metals that are soluble at high pH from solution.

		Vanadate exposure has been linked to reproductive and developmental toxicity mammals (Domingo, 1996). The current geochemical assessment does not provide detailed mitigation measures for controlling vanadium mobility or bioavailability. Given the persistent alkaline conditions in tailings and waste rock leachate, the assumption that vanadium will be naturally immobilized is not supported by available scientific data.	
36	Appendix H	AAN is concerned about the increasing concentration trends of chromium and uranium observed in humidity cell tests (HCT). These trends suggest that metal leaching from waste rock and tailings is not stabilizing over time and could pose long-term environmental risks to groundwater and surface water. HCTs are typically used to predict long-term weathering behavior, and the fact that chromium and uranium concentrations continue to rise indicates ongoing metal release rather than stabilization. If this trend persists, it suggests that chromium (VI) and uranium could be leaching at increasing rates well beyond the operational phase of the mine. Without enhanced mitigation and monitoring, these metals pose a long-term risk to water quality, aquatic ecosystems, and AAN ability to exercise Treaty and Aboriginal rights.	A. AAN requests that the Proponent extend humidity cell tests beyond the current timeframe to determine whether chromium and uranium (and vanadium) leaching trends will eventually stabilize or continue increasing. If the humidity cell tests ended early (as is the case in some instances) the Proponent should replicate and extend the HCTs. B. Perform column leaching tests to simulate real-world percolation conditions more accurately, including anoxic column leach testing to simulate the high pH, low redox conditions that are likely to be observed within the TMF and stockpiles. C. AAN requests that the Crown require the Proponent to better characterize the risk associated from Crawford from the highly alkaline, potentially reducing conditions that are expected to occur at Crawford. These conditions are quite atypical compared to other metal mines and present risks that are not well characterized through standard static and kinetic geochemical testing plans.

37	Appendix L Section 4	In the Metal Leaching/Acid Rock Drainage (ML/ARD) management plan, the Proponent has stated that they intend to use lime to stabilize clay roadways on site. While AAN understands this need for operational reasons on site, AAN is very concerned about the usage of lime compounding the risks of high pH effluent discharge from the Project. This could be made dramatically worse if the proponent finds that it is necessary to use significant volumes of lime to stabilize the entire clay impoundment to facilitate achieving design and safety objectives. Lime (calcium oxide or calcium hydroxide) is highly alkaline and raises the pH of surrounding materials. When applied at large scales, such as for stabilizing a clay impoundment, it can lead to long-term high pH drainage (pH 9–12), significantly altering water chemistry in receiving environments. The Project is already subject to the risk of highly alkaline discharge from the ore and waste rock that is not adequately considered by the Proponent. The widespread use of lime on site could dramatically increase the impacts of alkaline discharge to the receiving environment.	A. AAN requests that the Proponent investigate alternative clay stabilization methods, such as geotextiles or organic soil binders. B. AAN requests that the Proponent propose a limit to the amount of lime used on site to ensure that drainage does not exceed PWQO limits for pH. C. AAN requests that the Proponent track pH and metal solubility trends in areas where lime is applied as part of the water quality monitoring plan to better understand impacts to metal solubility from lime application.
38	Appendix E	In Appendix E the Proponent has made a commitment to avoid rehab during excessively wet conditions "to the extent practical". AAN notes that it is highly probable that the Proponent will face significant difficulties associated with moving clay soils under wet conditions, given the regional climate, extended project timeline and this issue being well documented at other recently constructed large open pit operations in Ontario. Clay-rich soils retain water and typically become highly plastic, making them extremely difficult to handle, transport, and compact in wet conditions. When saturated, clay loses structural	A. The Proponent should include a section in their soil management plan focused on planning for managing soils (especially clays) in wet-weather conditions. This plan should include contingencies for high-rainfall periods. B. The Proponent must commit to not expanding the footprint of the clay impoundment beyond what has been proposed in the Impact Statement.

		integrity, increasing the risk of rutting, slumping, and excessive sediment generation. Given that site operations will take place year-round, it will be nearly impossible to completely avoid moving clay soils in wet conditions. Spring snowmelt, fall rains, and unpredictable storm events will create wet conditions during much of the construction and operational phases that will create problems for the Proponent and may make it difficult to effectively stack clay materials within the clay impoundment and prevent erosion and sedimentation site-wide from the potential mess of handling saturated clays.	
39	Commitments table E.2	The Crawford Nickel Project, located within an area of significant ecological and cultural importance to AAN, has the potential to cause long-term environmental impacts, particularly related to the management and storage of the immense volume of tailings that will be stored in the TMF. There is a pressing need for ongoing, rigorous, and independent oversight of the tailings management practices throughout the life of the project. Tailings, if not properly managed, can lead to severe environmental contamination and pose significant risks to local communities, wildlife, and ecosystems. Given the complexity of tailings management, it is essential that an independent body with the appropriate expertise and authority be established to ensure that best practices are followed, and to provide transparent, accountable oversight of tailings management activities at every stage of the project.	To mitigate potential risks and enhance transparency, AAN requests that Canada Nickel commit to the establishment of an independent Tailings Review Board (ITRB) for the Crawford Nickel Project and include the commitment in the commitment table.

40	Appendix L Section 5.1.4	The Metal Leaching/Acid Rock Drainage (ML/ARD) plan for the Crawford Nickel Project currently includes a lower limit on pH but does not establish an upper pH limit. Given the baseline geochemical results, which indicate the potential for highly alkaline effluent, it is imperative that the ML/ARD plan be updated to address the potential for elevated pH values. The lack of an upper pH limit creates a gap in the management and mitigation of effluent quality, which could have significant consequences for the surrounding environment, including aquatic ecosystems and the broader ecological health of the area. A pH that exceeds the optimal range for most aquatic species could lead to negative impacts on water quality and biodiversity, particularly for fish and other aquatic organisms that are sensitive to changes in water chemistry. Without an upper pH limit, there is a risk that effluent could be discharged into the environment at levels that may cause harm to these sensitive species.	AAN requests that the ML/ARD plan for the Crawford Nickel Project be amended to include an upper pH limit, which should be set at individual grab samples as 8.5, and monthly averages at 8.0. This limit is consistent with PWQOs.
41	Appendix L Table B.1	Table B.1 in ML/ARD Management Plan proposes a screening criterion for metals at 75% of the Metal and Diamond Mining Effluent Regulations (MDMER) limits. This threshold is far too high given that MDMER limits only apply to a small subset of metals and do not account for many contaminants of concern at the Crawford Project. The water quality modelling would be demonstrably deficient and inaccurate at a much lower screening criteria on account of the relatively low concentrations of many MDMER regulated metals anticipated in mine effluent.	A. AAN requests that the Proponent set the screening criteria in the ML/ARD plan for 20% of MDMER limits. B. AAN requests that the Proponent should also establish screening criteria for aluminum, chromium, vanadium, phosphorous and uranium that should be set in relation to baseline conditions in the receiving waterbodies. C. AAN requests that the Proponent commit to adopting a trend analysis in their annual review of water quality, such as Mann-Kendall analysis, to identify changing water quality trends as early as possible.

		Water quality modeling must be sensitive enough to address deviations in water quality in relation to the water quality modelling early, and a 75% threshold provides too little margin for error. The Crawford Project will be truly immense. If effluent concentrations hit 75% of MDMER limits, it would be extremely challenging to alter the mine design and operations on account of the exceptionally large mine size and the physical challenges of altering the geochemical processes underway that generate the elevated concentrations of metals.	
42	Appendix K Section 3.2.4	The Proponent has reported that they did not analyze for phosphorous in HCTs. Phosphorous is a nutrient that can have significant effects on the productivity of receiving water bodies and can have dramatic effects to the biological environment. The lack of primary data on phosphorous from HCTs presents a significant level of uncertainty around the phosphorous loading to the environment from the project. This is particularly consequential because the receiving waterbodies are naturally elevated in phosphorous and any additional phosphorous loading from the Project could have significant adverse ecological consequences.	A. AAN requests that the Proponent undertake supplementary analytical work that incorporates phosphorous, especially humidity cell testing. The supplementary work should analyze for both total and dissolved reactive phosphorous. B. AAN requests that the Proponent reassess the water quality modelling to incorporate the findings of the supplementary work on phosphorous.
43	Appendix K section 2.3.1	The Project Water Quality Assessment and the water balance model discuss the overall mine schedule allowing for tailings to be stored in the open pit after it's mined out part way through the mine life. At this point the TMF would be reclaimed. AAN notes that if mine production delays or sequencing changes occur, the TMF may need to continue operating for a longer duration, raising concerns about extended tailings discharge and	A. AAN requests that the Proponent commit to no expansions of the TMF beyond what is currently scoped in the Impact Statement. B. AAN requests that the Proponent agree to using detailed engineering to design the Project to further reduce the volume of tailings stored on surface (e.g., through mining out one section of the pit entirely first

		water quality management and the potential need to expand the TMF beyond its current immense capacity to accommodate additional tailings. AAN does not support any expansion of the TMF beyond the currently proposed footprint due to the increased long-term environmental risks this would present.	and depositing tailings there as soon as possible). C. AAN requests that the Crown work with our Nation to identify appropriate Conditions of Approval related to consequential Project design changes (such as a TMF expansion).
44	Appendix B.6	AAN is concerned that aluminum already exceeds the Provincial Water Quality Objective (PWQO) under baseline conditions in the West Buskegau River. Given that the project's tailings and waste rock drainage are expected to be high pH (above 9.5), the increased aluminum loading to the receiving environment may have serious biological consequences if not properly mitigated. While aluminum is typically insoluble at neutral pH, it becomes more soluble at both low and high pH. Given that the project will produce high-pH effluent from tailings and waste rock, aluminum may remain in a dissolved and bioavailable form, increasing toxicity risks to aquatic organisms. High pH also interferes with gill function in fish, meaning fish exposed to both elevated aluminum and high pH will be at compounded risk.	A. AAN requests that the Proponent provide an analysis specific to aluminum that assesses how effluent with an elevated pH (and potentially elevated aluminum) may interact with the naturally elevated concentrations of aluminum in the receiving water bodies, especially West Buskegau Creek. This analysis should include the potential for increased overall pH conditions in West Buskegau Creek dissolving more aluminum from streambank sediments. This analysis should be used to identify additional means to mitigate the probable additional impacts to aquatic life from the elevated pH and aluminum. B. AAN requests that the Proponent update the water quality modeling to assume higher aluminum solubility at high pH and assess whether post-mitigation concentrations will still exceed PWQO. C. Ensure effluent pH is maintained within a neutral range (6.5–8.5) to prevent aluminum solubilization. Note that AAN requests that the pH should likely be kept below 8 in general, to minimize the risk of aquatic effects. D. AAN requests that Environment and Climate Change Canada (ECCC) work with our Nation to design the Environmental Effects Monitoring (EEM) Program for the

			Project to ensure that it is robust and captures the numerous aspects of this project that are atypical in comparison to other metal mining projects. AAN notes that our Nation will require time and community engagement to ensure that the EEM program incorporates our members' knowledge of the land.
45	Chapter 3	The sediment ponds on site are only designed to handle a 1:10-year flood event, which may not provide adequate retention time to properly settle clay particles following high-intensity storms. Additionally, if storm events exceeding the 1:10-year return period occur, large volumes of water are proposed to report directly into the open pit, creating safety risks for workers. Given the proposed long mine life and increasing storm intensity due to climate change, a storm larger than the 1:10 year return period is certain for the site. Furthermore, the relatively small size of the sedimentation ponds creates doubt that there is sufficient retention time for the fine clays present on site to settle out of solution.	A. AAN requests that the Proponent redesign sediment ponds to handle at least a 1:50-year flood event to improve retention time and reduce overflow risks. B. In addition to expanding sediment pond capacity, AAN recommends that the Proponent construct additional retention basins or expansion areas to accommodate increased water volumes during exceptional storm events and allow additional retention time.
46	Appendix C.5 Section 6.3.4.7	Once the pit lake is full, the Proponent proposes to have the pit lake overflow into both the North Driftwood and West Buskegau Rivers. Maintaining proportional and stable flow distribution to each watercourse over the long term will be highly challenging, particularly given the uncertainties in climate variability, hydrological changes, and pit lake water level fluctuations. Over time, erosion, sedimentation, and seasonal variations in precipitation and evaporation are likely to alter the connectivity between the pit lake and each receiving watercourse. It will be difficult to predict and control how much water flows into each system, especially without an engineered	AAN requests that the Proponent clarify how they will design the outlets of the pit lake to ensure that each respective receiving watercourse will receive the proportionate flow expected from the pit lake for the long term (post final closure; 200+ years into the future).

		flow regulation structure. Indeed, it is extremely unusual in nature to have two outlets from a single water body. This may also create connectivity between watersheds where it previously did not exist that may have adverse outcomes on fish populations. If disproportionate flow occurs, one watercourse may experience higher-than-expected discharge, potentially leading to increased erosion and habitat disruption. Conversely, if one of the outlets receives less flow than anticipated, critical fish habitats—such as sturgeon spawning areas downstream—could be impacted due to reduced base flows. This Proposed design may create operational complexity and significant alterations to the downstream environment far into the post closure phase.	
Cultural Resources / Socio-Economics			
47	7.2.0.2.2 (Socio-Economic Study)	The Impact Statement does not include a consideration of AAN's supplementary socio-economic assessment results.	A. Once AAN's supplementary socio-economic assessment is complete, AAN expects a written summary describing how the results of AAN's Study have been considered and incorporated into the Impact Assessment. B. AAN requests a draft of how results of AAN's supplementary socio-economic assessment are considered in the Impact Assessment prior to finalization.
48	Appendix B.10 (Cultural Heritage Screening Report)	The Cultural Heritage Screening Report (CHSR) notes in its Summary Statement and Recommendations that "Should Indigenous Engagement identify other cultural heritage resources in the study area, further cultural heritage work may be required" (CHSR: 14). AAN recently completed a Traditional Knowledge Study, which included the	The CHSR should be updated to include a consideration of the results of AAN's Traditional Knowledge Study.

		documentation of cultural sites within the Study Area. AAN mapped numerous sites within the Study Area. Importantly, there were two specific ceremonial sites within the Study Area that participants identified but chose not to map. A consideration of the results of AAN's Traditional Knowledge Study is not included within the CHSR.	
49	Appendix B.11 (Stage 1 Archaeological Assessment) Section 1.1	The Stage 1 assessment notes that "in keeping with CNC's commitment to Indigenous engagement for the Project, draft versions of the Stage 1 archaeological assessment were provided for review and comment to the Wabun Tribal Council […] Taykwa Tagamou Nation, and the Métis Nation of Ontario" (Appendix B.11: 1). AAN was not provided with the opportunity to review the draft Stage 1 assessment, which is a critical oversight. The Project is located in AAN's Sacred Traditional Territory; AAN must be consulted on all matters that have the potential to impact its rights and interests, regardless of if the work being conducted is federally/provincially regulated.	A. AAN requires the Province of Ontario to make a commitment to ensure AAN is consulted on all provincially regulated permits for this Project to ensure AAN does not miss out on opportunities to review provincial documents that may impact the Nation's rights and interests. B. AAN must be invited to participate in any future archaeological fieldwork. C. AAN must be provided with the opportunity to review any future draft archaeological submissions.
50	Appendix B.11 (Stage 1 Archaeological Assessment)	There is no recommendation for a Chance Find Protocol to be developed, should unanticipated heritage resources be encountered during any ground-disturbing activities, regardless of if they are in areas identified as having or not retaining archaeological potential.	The assessment should include the recommendation that a Chance Find Protocol be developed as part of the permitting phase of the Project, if approved.
51	Appendix B.11 (Stage 1 Archaeological Assessment)	The archaeological assessment does not include consideration of the results of AAN's Traditional Knowledge Study.	The archaeologists should review the results of AAN's Traditional Knowledge Study and ensure it informs the consideration of archaeological potential and any future archaeological assessments.
52	Section 23.4.3	CNC highlights contracting opportunities for local businesses during construction, operations, and closure.	CNC must implement a structured process that provides AAN with priority contracting opportunities throughout the

		However, there is no discussion on any mechanisms within CNC's procurement process for priority contracting opportunities for AAN businesses or partnerships.	construction, operations, and closure phases. This initiative not only aligns with the principles of reconciliation and respect for Indigenous rights but also fosters a sustainable economic partnership that prioritizes Indigenous business interests. This must include sole source contracting opportunities for AAN. Through this, CNC can directly contribute to capacity building within AAN, enabling the Nation to develop critical skills, resources, and infrastructure necessary for successful participation in the Project. By prioritizing AAN in contracting opportunities, CNC will promote a collaborative relationship and a commitment to building capacity in AAN. This commitment to Indigenous engagement will not only enhance CNC's corporate social responsibility but also strengthen its position as a leader in responsible mining practices. To this end, we recommend that CNC develop and formalize a policy that includes clear criteria and guidelines for prioritizing AAN in all relevant contracting opportunities. This could be included in an Impact Benefit Agreement (or similar).
53	Section 23.4.2	CNC commits to hiring Indigenous people during the Project. However, AAN notes that the EIS lacks sufficient detail on the specific strategies and processes that will be implemented to ensure priority and fairness in these hiring practices for AAN members. It is essential that clear, actionable plans are outlined to support meaningful employment opportunities for Indigenous communities throughout the duration of the Project.	AAN recommends that CNC implement priority hiring practices for AAN members across all levels of employment, including management and supervisory roles. We propose the establishment of culturally appropriate training programs tailored to the unique needs and strengths of AAN members, alongside Indigenous retention policies that promote a supportive work environment. To ensure accountability and measurable progress, we suggest the incorporation of specific employment targets within the framework of an

			Impact Benefit Agreement (IBA) or a similar binding document. Additionally, AAN advocates for the creation of mentorship programs designed to facilitate the professional growth of AAN members within CNC. These programs will not only enhance skill development but also foster a sense of belonging and community within the workplace. By prioritizing these initiatives, CNC can demonstrate its commitment to reconciliation and support the long-term socio-economic advancement of AAN members, thereby creating a mutually beneficial partnership.
54	Section 23.4.4.3.2	CNC will generate significant tax revenue for the Provincial and Federal governments. These benefits for Crown governments are derived from lands taken up and nickel extracted from AAN's Traditional Territory. As such, there must be equitable sharing of these tax revenues with AAN and other impacted First Nations. During the operations phase of the Project the tax revenues to Crown governments are as follows: • $2.5 billion Ontario Mining Tax • $4.2 billion Federal income tax • $2.8 billion Provincial income tax To advance economic reconciliation with First Nations, a Resource Revenue Sharing (RRS) Agreement must be developed to share crown tax and royalty revenues equitably with impacted First Nations.	AAN strongly recommends that CNC actively support and advocate for the implementation of a Resource Revenue Sharing (RRS) Agreement for the Project related government revenues. The establishment of an RRS Agreement is crucial to ensuring equitable distribution of resource-derived revenues. AAN acknowledges that the involvement of Crown governments is essential for the realization of RRS Agreements. However, we expect CNC to take a proactive stance in this initiative by collaborating with AAN and Crown governments to advocate for the incorporation of RRS principles into the project's planning phases. This collaborative approach will not only enrich the socio-economic landscape for AAN members but also enhance CNC's operational legitimacy and social license to operate within the region. By championing the need for shared revenue frameworks, CNC can position itself as a leader in ethical resource development, setting a

			precedent for future projects in collaboration with Indigenous communities. Such agreements are not only instrumental in promoting positive relationships between industry, governments, and Indigenous communities but also serve to acknowledge the historical and ongoing connection of AAN to the lands and resources within their Territory.
55	Section 23.4.2.2	CNC plans to develop an Indigenous Skills and Employment Training Program. There is currently no mechanism outlined for AAN to provide input or collaborate on the development of CNC's Indigenous Skills and Employment Training Program	CNC must commit to involve AAN in the development of an Indigenous Skills and Employment Training Program. Ideally the program should be co-developed or led by AAN and other First Nation communities in collaboration with CNC. Community-led training programs often lead to better outcomes, as AAN has a better sense of their members' needs than any other entity.
56	Section 23.4.2.2	CNC plans to develop a Diversity and Inclusion Policy. There is currently no mechanism outlined for AAN to provide input or collaborate on the development of CNC's Diversity and Inclusion Policy.	CNC must commit to involve AAN in the development of a Diversity and Inclusion Policy. Ideally the program should be co-developed with AAN and other First Nation communities in collaboration with CNC. The Diversity and Inclusion Policy should include provisions to allow Indigenous employees to maintain traditional and ceremonial practices to enhance Indigenous employee retention (e.g. smudging areas, time-off for harvesting, etc).
57	Section 23.1.2	There is no discussion in the EIS about how CNC will invest in the local economy or in local First Nations for infrastructure, education, social programs, etc.	CNC must complete engagement with AAN to identify investment opportunities to support the enhancement of on/off-reserve infrastructure, education and social programs.
58	Section 23.8	As per the EIS, CNC does not anticipate having dedicated follow-up or monitoring for economic valued	CNC must commit to monitoring and follow-up programs to assess economic valued components. This should

		components. This does not allow AAN to track or assess AANs economic participation in the Project.	include specific monitoring of First Nation employment, training, contracting opportunities, etc. Without monitoring and tracking these components it is impossible for AAN to assess the effectiveness of CNCs commitments to First Nation inclusion in the Project.
59	Chapter 23 and Appendix C.10	The Crawford Nickel Project presents significant concerns regarding its long-term economic viability, social impact, and environmental consequences. While nickel mining holds promise due to global demand, the economic potential of the Crawford deposit is hindered by its very low-grade ore, which makes it marginal from the outset. This factor, coupled with fluctuating commodity prices, indicates that the project will likely be one of the first to close when nickel prices decline and one of the last to reopen during periods of market recovery. The low grade of the deposit results in high operational costs and thin profit margins, raising doubts about the sustainability of the project throughout its life. The likelihood of the project experiencing repeated start-stop cycles in response to market conditions poses risks not only to the project's profitability but also to its workers and the surrounding communities. These cyclical halts in production will lead to uncertain job security, eroding the anticipated social and economic benefits that the Project might provide. Communities may face disruptions, with workers losing employment during down periods and local businesses suffering from the unstable economic activity. The Mount Keith Nickel Mine, owned by BHP Billiton and part of BHP's Nickel West Operations, is a geologically analogous nickel deposit to Crawford, with the main	A. AAN notes that many or all the potential positive economic outcomes from the Project are dependent on the Project operating continuously or with limited downtime. Given the lack of control that the Proponent has over commodity prices and the potentially significant adverse environmental and economic impacts to our Nation from the Project experiencing periodic temporary shutdowns, we request that the Proponent clarify how our Nation and our members can have confidence that the Project will provide the promised benefits consistently over time, to justify the immense and irreversible risks to the environment and our ability to exercise our Treaty and Aboriginal Rights. B. AAN requests that the Proponent identify feasible and realistic commitments that can be made in both Appendix E of the Impact Statement and within our IBA agreement with the Proponent that provide us with a level of certainty around the potential economic benefits that the Project promises. C. Given the low-grade nature of the deposit, AAN requests that the Proponent fund an independent financial analysis to assess the true long-term profitability of the project. This should include a thorough risk assessment regarding commodity price volatility and its impacts on project sustainability.

		difference being that Mount Keith has nickel grades that are almost twice as high as at Crawford. Despite the higher grades, well established operation and financially stable owner, Mount Keith is frequently subject to temporary closures and is in fact currently closed due to low nickel prices. It is hard to believe that Crawford, with lower grades and immense capital expenditure, will be more economically viable than the established analogous operations in Australia. Furthermore, while the economic impacts on workers and communities will fluctuate with the life of the mine, the environmental impacts will persist regardless of the project's operational status. The long-term environmental footprint of the project, including potential habitat destruction, water contamination, and tailings management, will remain even during periods when the mine is not actively producing. This creates an unsustainable situation where the environmental risks continue without the offsetting economic benefits to mitigate them. It is worth noting that the Canada Nickel team previously advanced the Dumont Nickel Project through permitting and approvals in Quebec. The Dumont Project has very similar geology to Crawford. Despite being fully permitted for construction, Dumont is not being built on account of the lack of economic viability of the Project.	D. AAN requests that the Proponent should prepare a contingency plan to ensure stable employment for workers, even during periods when the mine is temporarily closed. This could include retraining programs, relocation assistance, and agreements with local communities for job creation in alternative industries. E. AAN requests that the IBA agreement between our company and the nation include provisions that guarantee long-term and stable economic benefits, regardless of operational fluctuations.
60	Chapter 25	AAN notes that our socio-economic baseline study is incomplete, and our team is preparing a supplementary report which we expect to be incorporated into the final Impact Statement.	AAN requests that the Proponent and the Crown work with our Nation to incorporate our supplementary socio-economic study findings into the Impact Statement, Impact Assessment Report and to support IBA negotiations.

Air, Noise, Vibration			
61	12.0	CNC's air dispersion model does not include any special receptor locations related to AAN traditional land and resources use (TLRU) and Indigenous Knowledge (IK) sites. AAN members use the lands and waters in the Project area for TLRU and ceremonial purposes.	AAN TLRU and IK sites should be considered in CNC's air quality assessment. The geographic locations for TLRU and IK should be inputted into the air dispersion model as special receptors. This will provide site specific data for AAN land users who use the area so they can effectively assess the Project's impact on land use and rights.
62	12.8	CNC provides no information on how it intends to monitor air quality during all phases of the Project, nor any details about which air contaminants it intends to monitor and how. CNC does not specify how AAN will be involved in air quality monitoring during construction, operations and closure phases of the Project.	AAN requests the implementation of robust and long-term air quality monitoring program to verify protection of the atmospheric environment, including community-led monitoring during construction, operations, and closure phases of the Project. This must include input from AAN on the air contaminants monitored, the location of monitoring stations, sampling techniques/equipment, etc.
63	12.1.3 Appendix B. 13	AAN is concerned about Chrysotile Asbestos (asbestos) contained in the bedrock on-site, and airborne asbestos contained in Project-related particulate matter during construction and operations. Further, CNC relied exclusively on visual inspections of core samples to quantify asbestos levels. This method is fundamentally inadequate and prone to inaccuracies, potentially leading to a mischaracterization of asbestos present at the site. The human health implications of such underestimations are profound, especially given the known risks associated with asbestos exposure. There is a high potential that the EIS underrepresents asbestos present on site and in turn within Project-related particulate emissions.	A. AAN requires CNC to implement more rigorous and scientifically validated asbestos detection methods for analyzing asbestos on site and in particulate matter. Once results are available, CNC should remodel asbestos emissions accordingly. This will ensure the accuracy of predictions in the EIS, and the safety and well-being of members. Comprehensive analytical techniques, rather than visual inspections, are essential for accurately assessing asbestos levels from the Project. We call for immediate action to address these critical issues, prioritizing the health of our community and the integrity of the environment and our people. Transparency and accuracy in testing are imperative to safeguarding our members and properly characterizing Project impacts.

			B. CNC must provide information on how asbestos emissions will be monitored during the Project. CNC must provide mitigation and adaptive management measures to address AAN concerns with asbestos emissions.
64	12.4.2.3	AAN has significant concerns around particulate emissions from the Project (including metals and asbestos contained therein) and potential impacts of deposition on human health, ceremonial/medicinal plants, wildlife, and water resources. CNC predicts that Suspended Particulate Matter (SPM), Particulate Matter 10 micrometers or less in diameter (PM_{10}) will exceed 24 hour- average criteria by 345% and 22% respectively in the Project plus Background Scenario. There is also the potential for wildfire smoke to further exacerbate particulate emissions. These significant exceedances represent a health risk for land users and workers near the Project site. Especially for at-risk groups such as elders, youth, and people with existing respiratory conditions.	A. CNC must employ additional mitigation measures to reduce SPM and PM_{10} emissions on site including enhanced dust suppression efforts. CNC must provide a detailed monitoring and adaptive management plan that outlines measures that will be taken to protect the health of land users and workers near site. B. CNC must provide information on how particulate emissions will be monitored during the Project and how CNC will know when exceedance conditions are occurring. C. CNC must provide information on how adaptive management will be used when an exceedance is discovered. Including discussion on how the Project will be managed during poor air quality events caused by wildfire smoke. D. CNC must provide information on how exceedances conditions near the Project site will be communicated to AAN and the public.
65	12.4.2.3	AAN is concerned with the predicted exceedances of several Contaminants of Potential Concern (COPCs) during the Project and Background scenario that will impact human health, ceremonial/medicinal plants, wildlife, and water resources.	A. CNC must employ additional mitigation measures to reduce emissions and ensure regulatory compliance for muscovite, aluminum, manganese, benzo(a) pyrene and Respirable Crystalline Silica (RCS) on site including enhanced dust suppression efforts and scrubber technology. CNC must provide detailed monitoring

		CNC acknowledges that several COPCs will experience significant exceedances of air quality standards including: • Muscovite (707% - 24 hr) • Aluminum (212% - 24 hr) • Manganese (23% - 24 hr) • Benzo(a) pyrene (10% - 24 hr) • Respirable Crystalline Silica (RCS) (17% - 24 hr) However, there is no discussion of what adaptive management practices will be implemented if air quality exceedances are detected. There is also no procedure for notifying AAN and other local communities of air quality exceedances. These significant exceedances represent a health risk for land users and workers near the Project site. Especially for at-risk groups such as elders, youth, and people with existing respiratory conditions.	and adaptive management plans that outline measures that will be taken to protect the health of land users and workers near site. B. CNC must provide information on how COPC emissions in exceedance will be monitored during the Project and how CNC will know when exceedance conditions are occurring. C. CNC must provide information on how adaptive management will be used when an exceedance is discovered. D. CNC must provide information on how exceedances conditions near the Project site will be communicated to AAN and the public.
Climate Change			
66	Chapter 30 (Assessment of Potential Affects of the Environment on the Project) & Appendix N (Climate Change Resilience Assessment)	The Climate Change Resilience Assessment (CCRA) does not adequately address the involvement of Indigenous Nations in greenhouse gas (GHG) mitigation, climate resilience, and adaptation planning for the Crawford Nickel Project. There is a critical need to incorporate meaningful Indigenous engagement throughout the assessment process, including the integration of Traditional Ecological Knowledge (TEK) to enhance the understanding and mitigation of local climate impacts.	AAN requests that CNC outline specific mechanisms for engaging Indigenous communities in decision-making, co-developing climate adaptation measures, and building capacity for the participation in climate change monitoring and implementation activities.
67	Appendix N Section 3.2 (Climate Profile for Crawford Nickel)	Section 3.2 highlights that precipitation events are projected to increase significantly in intensity by the 2080s, with more frequent and severe localized flooding due to	CNC should assess how increased precipitation, and more intense rainfall might impact field and sampling programs (ie. sampling frequency, and the quality of collected

		rapid or prolonged accumulation. While it was discussed that these changes pose challenges to stormwater and drainage systems, the potential effects on field and sampling programs for the mine are not addressed. Intense rainfall events could disrupt sampling schedules, compromise sample integrity, and increase the likelihood of contaminants being mobilized into surface water, potentially affecting the accuracy of monitoring data.	samples), and identify measures to ensure sampling activities can continue effectively during and after extreme precipitation events.
68	Appendix N Section 6 (Conclusions)	The Climate Change Resilience Assessment (CCRA) is recommended to be reviewed and updated every five years initially. However, the document does not specify how long this five-year review cycle will continue, whether the review frequency will change over time and what conditions the review period is subject to change.	A. AAN requests that CNC specify how long the initial five-year review cycle will remain in place. B. AAN requests that CNC outline the conditions that would prompt adjustments to the review frequency in the future C. AAN requests that CNC ensure meaningful Indigenous involvement and engagement during the review process to incorporate traditional knowledge, reflect Indigenous perspectives, and address community-specific concerns, making the assessment more comprehensive and relevant.
69	Appendix C.6 Section 5.36 (Carbon Sink and Section 6.1.1.3.2 (In Process Tailings (IPT) Carbonation Process)	The IPT carbonation process described in Section 5.36 and Section 6.1.1.3.2 relies on a concentrated source of CO2 and is based on a pilot-scale implementation. The document highlights that CO2 for the process must be secured from external industrial emitters, as on-site CO2 capture from the project's GHG sources has been deemed technically infeasible. The feasibility of implementing the IPT technology at the project scale has been confirmed, but there is no discussion addressing two critical aspects of this strategy:	AAN requests that CNC provide clarity on the scalability and feasibility of the IPT carbonation process, including: I. The document should elaborate on any formalized agreements or ongoing negotiations with external industrial emitters to secure a consistent and reliable CO2 supply. II. The analysis should identify potential risks and mitigation strategies related to the availability of CO_2 from industrial emitters. These risks could

		1. Whether solidified agreements or potential arrangements are in place with external industrial emitters to supply the required CO2. 2. The potential risks associated with securing an adequate CO2 supply at scale, including considerations of availability, reliability, and regulatory constraints that might impact the long-term success of this emission reduction strategy.	include variability in CO_2 output from emitters, competition with other projects seeking CO_2, or potential policy and regulatory changes that may restrict or complicate access to CO_2 sources. A discussion of how such risks would be managed is crucial for understanding the long-term viability of this approach. III. As the IPT carbonation process is based on a pilot-scale implementation, AAN requests that CNC provide a detailed explanation of how the pilot-scale results demonstrated feasibility for scaling up to the project level, including an evaluation of any limitations or challenges encountered during the pilot phase and how these will be mitigated during project-scale implementation.
70	Appendix C.6 Section 6.1.3.3.1 (Carbon Sequestration)	As detailed in Section 6.1.3.3.1 (and other relevant sections in Appendix C.6), the IPT carbonation process involves injecting CO2 into tailings to accelerate carbonation reactions with the goal of reducing CO2 emissions from external industrial emitters. This has the potential to alter the geochemical properties of the tailings. However, CNC does not provide an assessment of how these geochemical changes might impact tailings stability or result in unintended environmental consequences.	A. AAN requests a more comprehensive assessment of how carbonation-induced geochemical changes will impact the tailings and surrounding environment. B. CNC should provide detailed mitigation strategies to address any identified risks associated with these geochemical changes, as well as outline robust plans for ongoing monitoring and adaptive management.
Mercury			
71	Chapter 3 Section 3.3.5.2 (Mine Water Management) & Appendix C.4 – Groundwater Assessment	In Section 3.3.5.2 of Chapter 3, the Proponent has stated that "Contact water will be conveyed to a series of ponds for storage and treatment prior to being released back to the environment. In addition to treatment within the ponds (e.g., sediment settling), a series of water treatment	AAN recommends that the Proponent undertake actions to substantially reduce the quantity of sulphate released to the local environment through its treatment of effluent prior to release to the local environment and groundwater,

	& Appendix C.5 – Surface Water Resources Assessment, Sections B.1.2 (Seepage Quality) and B.2.1 (Predicted Untreated Effluent Quality) of the Assimilative Capacity Study	plants will be located in line with the Collection Pond outlets to provide additional treatment of contact water prior to its release to the surrounding environment. The exact design and location of these water treatment plants will be determined as the Project progresses, but the units are intended to provide supplemental treatment for the parameters of potential concern identified." In Table 7.1 of Appendix C.4, the Proponent provides sulphate data in groundwater and predicted sulphate concentrations in groundwater seepage from mine areas. These data show background groundwater quality (75th percentile) values for sulphate of 2.98 mg/L in bedrock and 5.25 mg/L in overburden. Predicted sulphate concentrations in groundwater seepage (75th percentile) from the West Stockpile, East Stockpile, Impoundment Facilty and TMF are 141, 106, 326 and 282 mg/L. In Sections B.1.2 and B.2.1 of the Assimilative Capacity Study in Appendix C.5, the Proponent lists various sulphate concentrations in seepage and predicted untreated effluent. These values exceed baseline values in the local area (~ 1 mg/L) by up to >300 fold. AAN is concerned about high concentration sulphate releases to the environment from contact water. Sulphate is a PoPC (parameter of potential concern) for AAN since it is known to stimulate the production of methylmercury. AAN is concerned because sulphate is not listed in the Impact Statement as a PoPC (but rather a Non-PoPC) and thus would presumably be excluded from further treatment. Given sulphate is a dissolved ion, it is highly mobile in hydrological systems and its concentration will not be substantially affected by settling in ponds.	including to the North Driftwood River, West Buskegau River and Jocko Creek.

72	Chapter 15 Section 15.4.3.3 (Project Residual Effects)	In Table 15.6 – Recommended Effluent Criteria of Chapter 15, several water quality parameters are listed, but the list does not include sulphate. AAN is concerned about sulphate release to the environment from contact water since it is not listed in this table for Recommended Effluent Criteria. Sulphate is a PoPC for AAN since it is known to stimulate the production of methylmercury.	A. AAN recommends that although sulphate is not predicted to exceed BC guidelines for sulphate toxicity, there remains a strong likelihood that sulphate releases to the environment at the predicted concentrations will stimulate methylmercury production. The stimulation of mercury methylation by sulphate is discussed in the BC guideline, but is not considered in arriving at the guideline concentration. To our knowledge, the only current guideline that may be protective of significant stimulation of mercury methylation is the 10 mg/l sulphate guideline for the State of Minnesota. AAN recommends that sulphate be added to the Recommended Effluent Criteria and that its concentration be reduced through treatment to the lowest level possible prior to release to the North Driftwood River, West Buskegau River or Jocko Creek. B. AAN recommends that IAAC impose a condition of approval stating that sulphate be added to the Recommended Effluent Criteria at an approval concentration that is the lowest possible concentration achievable with current water treatment technology. AAN recommends that neither the BC sulphate guideline (~300 mg/l) nor the Ontario drinking guideline (500 mg/l) be the benchmark for inclusion of sulphate in the Recommended Effluent Criteria because these concentrations are too high to be protective of increased mercury methylation. Rather, AAN recommends that IAAC consider either a site-specific assessment or implementation of the State of Minnesota guideline for 10 mg/l sulphate.

73	Chapter 15 Section 15.4.3.3 (Project Residual Effects) & Chapter 16 Section 16.2.2.1 (Ecological Land Classification and Land Cover) & Chapter 15 Section 15.6.2 (Change in Surface Water Quality)	In Section 15.4.3.3 of Chapter 15, in the subsection on "Mercury", the Proponent states that "A parameter of concern raised during the consultation was mercury methylation as a result of flooding of wetlands." Additionally, in section 16.2.2.1 of Chapter 16 in Table 16.5, the Proponent list total wetland area in the Project Area as 77% coverage and in the Local Study Area as 74% coverage. Additionally, in section 15.6.2 of Chapter 15, the Proponent states that "The level of confidence in the assessment of residual environmental effects on surface water quality is high." AAN is concerned that the proponent views the flooding of wetlands as the only mechanism likely to increase mercury methylation as a result of mine activities. AAN is concerned about the possibility of a more widespread issue with high sulphate concentration releases to local rivers. Under high flow conditions, local rivers may overtop their banks and introduce significant loads of sulphate into the wetland-rich landscape where it may stimulate mercury methylation on a much larger spatial scale than would be the case for the North Driftwood River diversion. This is of particular concern to AAN because of the extensive wetland coverage in the local study area and project area, which are given as 74-77% coverage in Section 16.2.2.1 (Ecological Land Classification and Land Cover). Additionally, large increases in sulphate concentrations in local rivers, as currently predicted in the Impact Statement (see Appendix C.5 – Surface Water Resources Assessment) could stimulate mercury methylation in downstream lake water and lake sediment.	AAN recommends that in addition to the control of sulphate releases, as discussed above, the Proponent adds this mechanism to current water quality modelling and the human health and ecological risk assessment so that the increased risk of methylmercury exposure can be more accurately predicted.

		AAN is concerned that not including this mechanism in the water quality model affects the level of confidence in predictive modelling with respect to methylmercury.	
74	Appendix C.5 Table C-10	In Table C-10 of Appendix C.5, the Proponent lists background mercury (trace) levels in the North Driftwood River under Regulatory Conditions, as well as predicted mercury (trace) levels at stations increasingly downstream as more water is mixed into the river. The analysis stops downstream of the Abitibi River confluence. Following effluent discharge from the mine area, mercury concentrations are shown to be more than double baseline concentrations and do not return to baseline concentrations until after the confluence with the Abitibi River. AAN is concerned that this potential increase in mercury concentrations in the North Driftwood River is not considered in analyses in the Impact Statement. In addition to sulphate releases, higher concentrations of mercury in water could also stimulate mercury methylation in downstream wetlands and lakes.	AAN recommends that in addition to sulphate, that the Proponent add these greater predicted mercury concentrations in water to current water quality modelling and the ecological and human health risk assessment so that the increased risk of methylmercury exposure be more accurately predicted.
75	Chapter 15 Section 15.4.3.3 (Project Residual Effects)	In Section 15.4.3.3 of Chapter 15, in the subsection on "Mercury", the Proponent states that "The predicted North Driftwood River methylmercury concentrations do not exceed the CWQG-FAL value of 4 nanograms per litre (ng/L)." AAN is concerned with the Proponent's reliance on the CWQG-FAL guideline value of 4 ng/L of methylmercury in water without appropriate context. AAN wishes to make the Proponent aware that this guideline was developed in	A. AAN recommends that in relation to methylmercury guidelines, the Proponent either i) generate site- and species-specific methylmercury water quality objectives for the regional area; or ii) adopt 0.2 ng/L methylmercury as the water quality objective for the protection of wildlife and human health; or iii) only use fish-tissue specific guidelines, such as the CCME fish tissue residue guideline for methylmercury. B. AAN recommends that IAAC impose a condition of approval stating the Proponent adopt one of the

		relation to direct uptake of methylmercury from water into fish and not in relation to methylmercury biomagnification in aquatic food chains, the latter which is the primary mechanism for methylmercury accumulation in fish. AAN points out from the section "Additional Considerations" in the CWQG-FAL (our bolding of text): "The issue that faces many environmental managers is ensuring the protection of wildlife consumers of mercury ladened fish. Calculations using reference concentrations of MeHg for wildlife species and field-based bioaccumulation factors (BAFs) produced estimates of water concentrations that could protect wildlife that consume aquatic biota. ***These generic calculations are intended as a guide to determining site- and species-specific water quality objectives.*** From conservative assumptions, concentrations of MeHg below 0.007 ng Hg·L^{-1} may be required to protect all wildlife species in Canada ***while concentrations above 0.2 ng Hg·L^{-1} may pose a risk to wildlife species***. MeHg concentrations in water between these limits may be hazardous to some wildlife depending on their feeding habits (preferred prey items, and the trophic level and BAFs of these prey items). More specific information is given in the supporting document for these guidelines (Canadian Council of Ministers of the Environment. 2003)."	methylmercury guidelines recommended above and not rely on the CWQG-FAL value of 4 ng/L because it was not formulated within the same context as could occur as a result of mine activities.
76	Chapter 15 Section 15.4.3.3 (Project Residual Effects) & Appendix B.6 (Surface Water Resources Baseline Report) Section 5.3.1.3 (Metals and Metalloids)	In Section 15.4.3.3 of Chapter 15, in the subsection on "Mercury", the Proponent states that "Predicted total mercury concentrations at the FDPs for the normal condition are approximately equal to the half detection limit value of 5 ng/L, which was applied to below detection limited source terms in the water quality model. The below detection source term mercury concentration	A. AAN recommends that the Proponent be consistent and only use ultra-trace analytical methods for water, such as US EPA Method 1631, for the determination of water total mercury content in monitoring and for data collection for modelling purposes. Here, a 10 ng/L detection limit is clearly inadequate when a more sensitive analysis was used for characterizing

		values would be expected to be similar to total mercury average concentrations in the receivers, which range from 2.47 to 4.77 ng/L in the North Driftwood River and West Buskegau Rivers, respectively." In Section 5.3.1.3 of Appendix B.6, the Proponent states that "Total mercury concentrations in the regional stations had a maximum value of 0.09 µg/L. No statistics were calculated for the lab results due to too few above detection limit samples with approximately 95% of the 84 samples from all stations as non-detects. The four observed mercury values exceeded the CWQG-FAL value. Out of the 80 non-detect values, 21 had RDL values above the CWQG-FAL value ranging from 0.03 to 0.09 µg/L." AAN is concerned that analytical methods for mercury analyses in the Impact Statement are not consistent and are at times inappropriate for accurate determination of mercury concentrations in water. AAN is also concerned that inappropriate analytical methods may erroneously inflate background total mercury values at surface water monitoring stations included in Appendix B.6 and elsewhere.	concentrations in local rivers, which were both under the half detection limit of other measurements. B. AAN recommends that surface water stations with mercury exceedances in Appendix B.6 be resampled and analyzed for total mercury content using acceptable ultra-trace analytical methods. C. AAN recommends that IAAC impose a condition of approval stating the Proponent only use total mercury analysis methods for water in their future data collection and monitoring wherein detection limits are less than 1 ng/L. This is commonly achieved using US EPA Method 1631. D. AAN recommends that IAAC impose a condition of approval stating the proponent resample surface water monitoring stations with mercury exceedances in Appendix B.6 and re-analyze samples using methods with detection limits of less than 1 ng/L.
77	Chapter 16 - Assessment of Potential Effects on Vegetation, Riparian and Wetland Environments	AAN is concerned about the lack of any baseline monitoring for mercury and methylmercury concentrations in wetland soils, wetland water and wetland biota. AAN is concerned that mercury methylation can be high in wetlands and can be stimulated by sulphate inputs into wetlands. AAN is concerned that there is a failure to fully	A. AAN recommends that the Proponent carry out a baseline monitoring program in a representative array of wetlands in the local study area. AAN recommends that wetland soils, wetland water and sentinel wetland biota should be assessed for total mercury and methylmercury concentrations.

		characterize background environmental conditions in a representative array of wetland systems in the local study area where methylmercury may be dominantly formed. AAN is further concerned that a lack of baseline data in wetlands will inhibit future abilities to assess changes or to mitigate mercury methylation in wetland areas impacted by the mine.	B. AAN recommends that IAAC impose a condition of approval stating the Proponent must complete a baseline monitoring program in a representative array of wetlands in the local study area that includes the assessment of total mercury and methylmercury concentrations in wetland soils, wetland water and sentinel wetland biota.
78	Chapter 17 – Assessment of Potential Effects on Fish and Fish Habitat & Appendix B.8.1 – Fish and Fish Habitat Baseline Supplemental Report & Appendix B.8.2 – 2021-2023 Fish and Fish Habitat Baseline	AAN is concerned about the lack of any baseline monitoring for methylmercury concentrations in stream and lake sediment, as well as the lack of any baseline monitoring for both total mercury and methylmercury concentrations in benthic macroinvertebrates. AAN is concerned that a lack of baseline data in stream and lake sediment and in benthic macroinvertebrates will inhibit future abilities to assess changes or to mitigate mercury methylation in aquatic ecosystems impacted by the mine.	A. AAN recommends that the Proponent add to their baseline monitoring program in fish habitat to include methylmercury concentrations in stream and lake sediment and both total mercury and methylmercury concentrations in benthic macroinvertebrates. B. AAN recommends that IAAC impose a condition of approval stating the Proponent must add to their baseline monitoring program in fish habitat to include methylmercury concentrations in stream and lake sediment and both total mercury and methylmercury concentrations in benthic macroinvertebrates.
79	Chapter 17 – Assessment of Potential Effects on Fish and Fish Habitat & Appendix B.8.1 – Fish and Fish Habitat Baseline Supplemental Report & Appendix B.8.2 – 2021-2023 Fish and Fish Habitat Baseline	AAN is concerned that there is not enough total mercury and methylmercury data for both angling fish and forage fish in baseline reports for a robust statistical analysis of possible future changes. AAN is especially concerned for angling and forage species mercury data in the West Buskegau River and Jocko Creek, where replication by species is lacking. AAN is concerned that inadequate replicated data will inhibit future abilities to statistically analyze any changes in fish concentrations.	A. AAN recommends that the Proponent add to their baseline monitoring program in fish habitat to include enough replicate data for total mercury and methylmercury content in rivers and streams of the local project area to enable robust future statistical analyses.

80	Chapter 21 Section 21.2.3.2 (Environmental Quality) & Chapter 21 Section 21.4.2.3.1 (Change in Environmental Quality) & Appendix C.6 (Human Health and Ecological Risk Assessment) Section 6.3 (Surface Water)	In Section 21.2.3.2 of Chapter 21 (and elsewhere), the Proponent states that: "The presence of methyl mercury in fish tissues is a regional concern. Throughout the province, and within waterbodies found in the LSA/RSA, the Ontario Ministry of the Environment, Conservation and Parks (MECP) has fish consumption advisories related to mercury (as methyl mercury) in fish (MECP 2024). For example, the MECP has fish consumption advisories mercury for Big Water Lake and Mattagami River downstream of Sturgeon Falls, which are within the LSA/RSA. Big Water Lake has consumption advisories for: northern pike, walleye and white sucker and the Mattagami River downstream of Sturgeon Falls has consumption advisories for northern pike, redhorse sucker and walleye. These consumption advisories provide the maximum number of meals per month people can safely eat and are based on size of fish and chemical found in the fish (in this case methyl mercury) and have been set for the general population and members of the sensitive population (i.e., women of child-bearing age and children under 15). For example, members of the general public can safely consume 16 meals (one meal is equivalent to 227 g or 8 oz [MECP, 2023]) per month of northern pike that contain methyl mercury that range in size from 30 to 35 cm caught in Big Water Lake, while members of the sensitive population can safely consume 12 meals per month of northern pike that range in size from 30 to 35 cm. The advisories are meant to protect members of the general population as well as members of sensitive populations from the toxicological effects of methyl mercury." AAN is concerned that only pointing out the naturally sensitive ecosystem to mercury accumulation in fish	A. Similar to points #74 and #75, AAN recommends that the Proponent add sulphate and mercury stimulation of mercury methylation in local wetlands and lakes to both current water quality modelling and the human health and ecological risk assessment so that the increased risk of methylmercury exposure can be more accurately predicted.

		detracts from the consideration that further increases in fish mercury content will result in the possibility of even less safe fish harvesting and lesser fish consumption per month by AAN. Further, in Section 21.4.2.3.1 of Chapter 21 (and elsewhere), the Proponent states that: "As well, for the North Driftwood River channel realignment, changes in methyl mercury concentration in angling fish compared to current existing are expected to be low (approximately 4% - Chapter 15 of the Impact Statement). As such, these changes are not expected to markedly increase potential exposures to methyl mercury through fish consumption due to the North Driftwood River Channel realignment." Further, in Section 6.3 (Surface Water) of Appendix C.6, the Proponent states that: "The Project is not expected to be a significant source of mercury to the aquatic environment. Mercury inputs associated with the Project were below typical RDL; as such, and as discussed in the Surface Water Resources Assessment (Appendix C.5 of the Impact Statement), a value corresponding to half the RDL was carried forward in the surface water modelling. As such, changes in mercury concentrations in surface water are expected to be negligible for the Baseline Plus Project scenario in the three watersheds assessed. Therefore, with the exception of changes in mercury concentrations associated with the North Driftwood River channel realignment (see Section 6.12), further assessment of mercury in the aquatic environment (e.g., sediment, fish, benthic invertebrates) were not evaluated further in the HHERA."	

		AAN is concerned that the predicted increases in fish mercury concentrations and subsequent effects on ecological and human health are underestimated because of considering only the North Driftwood Channel realignment as a mechanism to possibly increase methylmercury concentrations.	
81	Chapter 21 Section 21.8 (Follow-up and Monitoring)	In Section 21.8 of Chapter 21, the Proponent states that: "As it relates to fish and fish habitat, fish tissue samples will be monitored in comparison to the provincial and federal guidelines for arsenic, mercury, and methylmercury for the protection of human health and wildlife consumers of aquatic biota." AAN is concerned that future monitoring will only relate to provincial and federal guidelines in an ecosystem that is already shown to be sensitive to mercury. AAN is concerned that the Proponent does not suggest that future monitoring of fish mercury and methylmercury be compared to baseline monitoring to assess changes.	A. AAN recommends that the Proponent use their baseline monitoring program and additional data suggested in other comments above to statistically test against future fish mercury and methylmercury monitoring to assess changes. B. AAN recommends that IAAC impose a condition of approval stating the Proponent must establish a fish monitoring plan so that future fish mercury and methylmercury data can be statistically compared against robust baseline monitoring data.
82	Appendix C.5 Section 3.2 (Baseline Water Quality Data) of the Assimilative Capacity Study	In Table 3.2 of Section 3.2, the Proponent lists mercury concentration units of µg/L and values for rivers and creeks ranging from 2.47 to 6.45. AAN is concerned whether this is a typographical error or if these very high concentrations indeed exceed all possible mercury guidelines by a wide margin.	AAN recommends that the Proponent review this Table and make any amendments to it and/or to the context of these findings throughout the report.
83	Appendix C.7, Section 7.1.1.2 (Multimedia)	In Section 7.1.1.2 of Appendix C7, the Proponent states: "Project-related discharges are not expected to result in increased concentrations of mercury in the aquatic environment. As a result, mercury was not carried forward for quantitative assessment. However,	Based on explanations included above, AAN recommends that the Proponent add sulphate and mercury stimulation of mercury methylation in local wetlands and lakes to water quality modelling and that a quantitative human health and ecological risk assessment for mercury and

		the North Driftwood River Channel realignment may result in methylation of mercury in inundated soil (Section 6.12). As a result, additional consideration of methyl mercury in fish is provided in Section 7.4.2.2." AAN is concerned that mercury risk has been under-estimated in the Human Health and Ecological Risk Assessment.	methylmercury be completed in addition to concerns about the North Driftwood River Channel realignment.
84	Appendix C.7, Tables 6.2, 6.20, 6.22, 6.23,	In Appendix C.7, there are several values calculated or given for baseline and predicted concentrations of mercury that are clearly erroneous. These include: a. Table 6.2 baseline and predicted mercury concentrations in air. Baseline is given as 6.4×10^{-5} ug/m^3 and the Proponent should note that background mercury concentrations in air in Canada average approximately 1.5×10^{-3} ug/m^3 with variation of generally no more than 0.3×10^{-3} ug/m^3. b. Table 6.20 baseline and predicted mercury concentrations in beaver. Baseline values are given as 4.1×10^{-6} mg/kg wet weight. Predicted values are approximately the same magnitude. These values equate to parts per quadrillion levels, which are exceedingly low for beavers based on values in peer-reviewed literature. For example, Wren et al. (1980) list beaver muscle mercury values in the Parry Sound, Ontario area of approximately 30 ug/kg (parts per billion). This value is approximately 10,000 times larger than is given in Table 6.20. c. Similar magnitude errors persist for Tables 6.22 (duck) and 6.23 (goose).	A. AAN recommends that the Proponent add sulphate and mercury stimulation of mercury methylation in local wetlands and lakes to water quality modelling and that a quantitative human health and ecological risk assessment for mercury and methylmercury be completed in addition to concerns about the North Driftwood River Channel realignment. B. AAN recommends that IAAC impose a condition of approval stating the Proponent must complete a new human health and ecological risk assessment for mercury and methylmercury. C. AAN recommends that IAAC impose a condition of approval stating that the Proponent must obtain an independent third-party peer-review of a newly completed human health and ecological risk assessment for mercury and methylmercury. The purpose of the peer-review is to ensure accuracy of the risk assessment.

		d. Table 6.40 lists background and predicted concentrations of methylmercury in angling fish. Background methylmercury concentration is listed as 2.4 mg/kg. This is much higher than values listed in Table C2-1 of Appendix B.8.2 and we point out that values listed in Table C1-1 of Appendix B.8.2 are by dry weight and need to be converted to wet weight. AAN is concerned about the large number of relatively large magnitude errors in values in Appendix C.7, which are used in calculations, and therefore the possible validity of a quantitative human health and ecological risk assessment for mercury. AAN is concerned that a more rigorous examination of data validity and calculations is necessary to ensure the integrity of the human health and ecological risk assessment.	

6.0 Conclusion

The Crawford Nickel Project is located in an area which is highly sensitive and culturally significant to Apitipi Anicinapek Nation. The proposed Project will have significant adverse effects on our Aboriginal rights and interests which the Proponent and the Crown must avoid, mitigate, accommodate and/or compensate to obtain our consent for the Project. Apitipi Anicinapek Nation is optimistic that through ongoing good faith dialogue with the Proponent we will be able to minimize impacts to our rights and agree upon appropriate accommodation measures for the impacts which cannot be avoided or mitigated. Apitipi Anicinapek Nation requests that the Proponent respond in writing to each of our comments presented in this report and follow up on our agreed upon issue resolution process to advance towards a Project Agreement between AAN and CNC for the Crawford Nickel Project.

7.0 References

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