



Comments on the Crawford Nickel Project Impact Assessment Report and Conditions of Approval

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**Submitted by:
Apitipi Anicinapek Nation**



Overview

Apitipi Anicinapek Nation (AAN) has prepared this review of the draft Impact Assessment Report (IA Report) for the Crawford Nickel Project, as well as the potential Federal conditions on the Project that would be imposed as part of the forthcoming decision statement on the Project.

Our review of the IA Report is focussed on identifying and correcting any inaccuracies and providing further justification for AAN's position. Our review of the potential conditions is focussed on strengthening the conditions where we perceive important gaps within Federal jurisdiction.

Our Nation has been actively involved in each step of the Federal Impact Assessment (IA) for the Crawford Nickel Project to ensure that potential impacts to our Aboriginal and Treaty rights and interests from the Project are meaningfully considered by both the Crown and the Proponent. We have engaged in good faith and at a high level because this Project is very likely to have significant adverse effects on our exercise of rights, which must be documented on the public record and must be mitigated and accommodated.

The Project will have vast and profound impacts on account of its immense geographic and temporal size. The low-grade nature of the ore requires a huge quantity of rock to be mined to get the nickel. The Project benefits are highly uncertain at best on account of the low-grade ore and the variable price of nickel making the Project inherently marginal economically. Were it not for Canada's and Ontario's apparent 'build at all costs' drive, this Project would not and should not be approved. AAN has to consent to this project in order for it to proceed and at present the measures provided for in the Impact Assessment conditions and in the ongoing agreement negotiations with the Proponent are far from enough to warrant that approval.

Section 4.3.3 of the draft IA Report by the Impact Assessment Agency of Canada (IAAC) states:

"IAAC is of the view that the recommended mitigation measures and follow-up programs of the project would avoid, minimize, or otherwise mitigate the potential adverse effects of the project on the exercise of rights."

AAN strongly disagrees with IAAC's conclusion with respect to our Nations' exercise of rights. Our members frequently exercise their rights in the footprint of the Project area. The Project will be amongst the largest mining operations by physical footprint in Canada in an area already extensively impacted by a century of mining. The Project will profoundly change how we experience the land and our ability to continue to exercise our rights. The effluent from the mine will permanently change the waters in rivers where



our members exercise their right to fish, both through the immense volumes of effluent discharged into relatively small receivers, and the unusual chemistry of the mine effluent that is poorly characterized and lacks comparable operations to base modelling forecasts. Amongst other impacts, the Project will also inevitably create immense pressures on housing and social services in Timmins which will profoundly affect our most vulnerable members.

AAN reiterates the conclusions drawn regarding severity and magnitude of impacts on our exercise of rights as presented in our co-drafted IA Report Chapter. We provide further evidence and clarification herein.

Background

The proposed Crawford Nickel Project (Crawford; the Project) is located within the Territory of Apitipi Anicinapek Nation in an area of historic and contemporary land use and occupancy by our members. Our Nation has consistently voiced our position on the Project through our co-drafted chapter of impacts to AAN rights in the IA Report, our detailed submission and community engagement on the Impact Statement, our engagement during the Planning Phase (including a request for a Joint Review Panel) and consistent engagement with both the Proponent and IAAC throughout the process.

The overarching theme of AAN's position is that we believe there is a serious underestimation of potential impacts and an overestimation of potential benefits from this Project. Specifically, many of the professed benefits of the Project are highly speculative in nature, including the necessity for (i) unrealistically high nickel prices for the Project to be profitable, and (ii) rapid technological and infrastructure scaling for a carbon storage process that is yet unproven in industrial and commercial contexts, in order for this Project succeed. Considering the scale of the Project and the uncertainty with the management of environmental impacts, AAN believe this Project has an extremely high likelihood of undergoing several cycles of temporary shutdown that will inevitably impart significant environmental impacts without commensurate benefits. Conversely, amongst many technical issues, there remains substantial uncertainty around the ability of the culturally important West Buskegau River to assimilate the immense volumes of (poorly understood) effluent that the Proponent proposes to discharge in perpetuity.

Behind all of this, our members are deeply concerned about how their exercise of rights will be further deteriorated from an already highly compromised state. Our members hunt, trap, fish and gather medicines and plants on and around the footprint of the mine site. Concurrent to this submission, we are providing a supplemental, confidential memo to IAAC which provides more detailed information on land use and occupancy in the immediate Project footprint that will be directly impacted by the Project.



Key Unmitigated Residual Effects

- **Effluent in West Buskegau River:** The Project would discharge treated mine effluent into the West Buskegau River for decades and potentially centuries through operations and closure. AAN remains deeply concerned that the receiving environment, especially the West Buskegau River, is a small river system with limited assimilative capacity and that significant uncertainty remains regarding the long-term chemistry of mine contact water, seepage, and treated effluent. Federal and provincial reviewers agree with the uncertainties we identified related to water quality modelling, cumulative effects, low-flow conditions, climate change, and the extent of downstream mixing zones. The discharge is proposed upstream of a culturally important active sturgeon harvesting area. Even where contaminants remain below regulatory thresholds, the persistent introduction of large quantities of sulphate, major ions, metals, and other contaminants that are poorly regulated, into aquatic ecosystems changes the physical and chemical characteristics of the water, and creates long-term risks to fish health, fish habitat, and AAN harvester confidence in the safety of harvested fish. This assessment draws on AAN's repeated experience of mining projects in our Territory that had greater aquatic effects and exceeded environmental assessment predictions in both magnitude and geographic extent.
- **Uncertain Project economics, certain environmental impacts:** AAN remains concerned that the environmental, cultural, and rights-related impacts of the Project are relatively certain, while many of the anticipated benefits remain speculative. The Project's economic justification relies upon assumptions regarding future nickel prices, long-term market demand, successful implementation of emerging technologies, and sustained operational performance over several decades. The IA Report itself acknowledges uncertainty regarding key aspects of the Project's climate and carbon reduction claims.

Should commodity prices weaken or operational challenges emerge, a likely scenario considering the lengthy timeline of the Project, AAN members may be left with the permanent environmental and cultural consequences of the Project while anticipated employment, contracting opportunities, and economic benefits fail to materialize at the scale forecasted. Periodic shutdowns from low commodity prices completely undermines the promised economic benefits without commensurate reductions of impacts to lands, waters, wildlife. The certainty of adverse impacts are substantially greater than the certainty of corresponding benefits and this is not adequately considered in the assessment of residual impacts on our Nation.



- Impacts to AAN jurisdiction through extensive mineral tenure held:** The Crawford Project enables the Proponent to maintain extensive contiguous mineral claims across AAN Territory, including the Galna and McCool Blocks, through the application of assessment work conducted on the Crawford Property. The Galna and McCool blocks in particular are of exceptional importance to AAN for cultural reasons and for the exercise of rights, with the McCool block being immediately adjacent to our reserve and the Galna block immediately adjacent to our gathering location at Low Bush. Our Nation has repeatedly communicated our opposition to any exploration or development within these blocks and yet there is no formal protection offered by the Proponent or Crown. The long-term retention of these claims creates ongoing uncertainty, stress, and conflict regarding the future of lands that AAN considers essential to the exercise of our rights and jurisdiction. Mitigation measures proposed for the Project do not address the adverse effects associated with the continued maintenance of mineral tenure that undermines AAN's ability to protect and steward these areas according to our laws, priorities, and vision for the future.
- Unconsidered risks from the In-Process Tailings Carbonation (IPT) technology:** AAN remains concerned that the environmental assessment has not adequately characterized the risks associated with the proposed In-Process Tailings Carbonation technology. The technology remains novel at the proposed scale and forms a central component of the Project's climate-related narrative despite acknowledged uncertainties regarding carbon dioxide sourcing, delivery, reaction efficiency, long-term stability and subsequent geochemistry in the tailings which are highly alkaline and are likely to be subject to reducing conditions. Neither the Crown nor the Proponent know if this is going to work at scale and in a commercial context, or what the environmental impacts will be when operated at such a massive scale.

Potential risks associated with the introduction of concentrated carbon dioxide streams, associated chemical compounds, reaction by-products, and incomplete carbonation reactions have not been fully evaluated through long-term field-scale experience. Additionally, no geochemical characterization of environmental risks has been performed on tailings materials representative of their condition after undergoing the IPT process. This is a fundamental gap in the IA in that environmental risks associated with Project tailings are still not understood. Given the unprecedented scale of the Project, uncertainty regarding IPT performance creates additional uncertainty regarding water quality predictions, tailings chemistry, closure performance, and long-term environmental liabilities. These uncertainties have not been properly incorporated into the assessment of residual environmental effects or conditions of approval.



- **Socioeconomic Impacts on Vulnerable Populations Resulting from Housing and Service Pressures:** The scale of the Crawford Project is expected to place substantial additional pressure on housing, healthcare, social services, addictions supports, emergency services, and community infrastructure throughout the Timmins region. AAN members already experience disproportionate barriers in accessing affordable housing and essential services, as well as accessing hospitals, specialist care and long-term care services. The influx of workers associated with one of the largest mining projects in Canada where the Proponent has no intention of building accommodations for the worker influx risks dramatically exacerbating all of these challenges.

Increased housing costs, reduced rental availability, hidden homelessness, overcrowding, and increased pressure on social supports are likely to disproportionately affect vulnerable AAN members. These pressures will further compound existing inequities, contribute to family instability, increase exposure to violence and substance-use harms, and create additional barriers to participation in traditional land-based activities. This is compounded by the precarity of economic opportunity the mine presents both for individual employees and for our Nation that fails to mitigate the social impacts which are severe and highly probable.

- **Further degradation of an already highly stressed moose population:** Moose represent a culturally, nutritionally, and spiritually important species for AAN members and our members frequently exercise their right to harvest in the footprint of the Project. The Project would contribute to ongoing cumulative effects on moose through habitat loss, habitat fragmentation, sensory disturbance, increased access, increased traffic, and the displacement of animals from preferred harvesting areas. These effects occur within a regional context where moose populations are already subject to severe pressures from industrial development and landscape fragmentation.

Even with reclamation and mitigation measures, the Project will permanently alter large areas of habitat and contribute to the continued deterioration of ecological conditions that support healthy moose populations. Reduced availability of moose and increased difficulty harvesting already affects AAN's ability to exercise Treaty and Aboriginal rights, maintain food sovereignty, and transfer land-based knowledge between generations. Given existing cumulative pressures across the region, AAN remains concerned that the Project contributes to a trajectory of continued decline rather than recovery.



AAN Position on Residual Effects, Mitigation, and IAAC Assessment

AAN has identified a series of measures that are necessary to address the unmitigated residual effects described above. These include the proposed revisions to the draft conditions of approval set out in **Table 2**, as well as the AAN-required measures contained in our co-drafted chapter of the IA Report. While these measures would reduce some of the Project's most serious adverse effects, they do not change AAN's view that the current assessment understates the likely impacts of the Project on our rights and interests.

In particular, there remains a significant gap between AAN's assessment of the severity of Project impacts and IAAC's assessment, especially in light of the lack of commensurate AAN-specific mitigation and accommodation measures. AAN strongly disagrees with IAAC's lower ratings in several categories and expects IAAC to reconsider those ratings considering the additional AAN values information being provided in a separate confidential memo and the broader weight of evidence already on the record from our Nation. **Table 1** compares IAAC's assessment with AAN's assessment of impacts to AAN rights from the Crawford Project.

Table 1: Comparison of IAAC Assessment against AAN Assessment of Impacts to AAN rights from the Crawford Project

Right Category	AAN Assessment	IAAC Assessment of AAN
Right to Hunt	Moderate	Low-Mod
Right to Fish	High	Low-Mod
Right to Trap	Moderate	Low-Mod
Right to Gather	Low-Mod	Low-Mod
Right to Cultural Continuity	Low-Mod	Low-Mod
Right to Governance	Moderate	Low-Mod
Socioeconomic impacts	Moderate	Low



Summary and Next Steps

AAN has prepared a series of recommended text edits to the potential conditions of approval in **Table 2**. We are requesting that IAAC incorporate these text edits into the final version of the Project conditions of approval.

Table 3 includes a list of factual inaccuracies in the IA Report (primarily related to AAN specifically) that should be corrected in the final version of the IA Report.

Lastly, we wish to make some minor edits to our AAN Chapter of the IA report which are presented in **Table 4**.

The conclusion of our co-drafted chapter of the IA Report states as follows:

Based on the available evidence, the proposed project appears so harmful and so economically marginal and uncertain, unless all of the AAN proposed mitigation measures are adopted by the proponent or Crown, it should likely not be approved.

Upon review of the IA Report, the proposed conditions of approval and our ongoing engagement with the Proponent, we stand by this position. We further note that none of the AAN-specific mitigation/accommodation measures in our AAN Chapter have been addressed as of this time.

If the Crown and the Proponent are serious about their obligations to mitigate and accommodate the unmitigated residual impacts to our Nation from the Project, they both must immediately commence efforts to fully implement the AAN-specific mitigations proposed in the AAN co-drafted chapter of the IA Report relevant to them. This includes the Proponent fundamentally revisiting their approach to benefit sharing in negotiations with our Nation to meet or exceed existing benchmarks for benefit-sharing in Project agreements, which the Proponent is currently falling extremely far short of.



Table 2: Comments on the Draft Federal Conditions of Approval for the Crawford Nickel Project

#	Gaps Identified in Conditions of Approval	Required Revision
1.	Condition 2.2.1 currently does not require capacity support to enable indigenous parties to meaningfully participate in consultation activities. AAN requested capacity support where consultation is required under the conditions.	Amend Condition 2.2.1 to state: “provide a written notice of the opportunity for the parties being consulted to present their views and information on the subject matter of the consultation and commensurate capacity support to meaningfully participate; ”
2.	Currently there is no requirement that effluent quality achieve a specific environmental outcome at the point of discharge.	Amend Condition 3.2 to state: “continually refine the site water quality model with predictions for contaminants of potential concern, based on ongoing geochemical testing throughout construction and operation, and adapt the mine waste management plan prior to final closure; and and ensure effluent discharge criteria at the point of discharge approach or meet background water quality conditions for sulphate, metals and pH through application of best available treatment technologies and adaptive management. ”
3.	Condition does not require additional off-site fish offsetting measures designed in collaboration with and approved by Indigenous Nations.	Amend Condition 3.3.1 to state: “assess whether the restored and developed habitat are functioning as the intended fish habitat, and identify opportunities for additional off-site fish habitat offsetting measures developed in collaboration Indigenous Nations. ”
4.	There is no separate requirement that links treatment performance to a clear monitoring and adaptive management obligation at the point of discharge.	Add Condition 3.2.3 that reads: “ The Proponent shall monitor effluent quality at the point of discharge and implement adaptive management measures where effluent quality does not approach or meet background surface water quality conditions, particularly with respect to sulphate, metals, and pH. ”



<p>5. The conditions do not require characterization or monitoring of alkaline mine drainage and elevated pH. There is a concern that alkaline drainage may present a higher geochemical risk than ARD.</p>	<p>Add Condition 3.2.4 that reads: “The Proponent shall conduct ongoing geochemical characterization and monitoring (including specifically on post-IPT tailings) to identify and mitigate risks associated with alkaline drainage and elevated pH. Where monitoring indicates the potential for adverse effects on water quality, fish or fish habitat, the Proponent shall implement additional mitigation measures to prevent and reduce impacts.”</p>
<p>6. The conditions do not require the monitoring of air quality contaminants that are likely to be generated from the handling of CO2 related to the proposed carbon sequestration activities</p>	<p>Amend Condition 5.7.2 to state “monitor, during construction and operation, at locations determined pursuant to condition 5.7.1, for exceedances of baseline levels for PM2.5, PM10, NO2, SO2, amines, and any other contaminants of concern determined in consultation with Indigenous groups;”</p>
<p>7. AAN requested targeted employment initiatives to reduce wage inequities faced by Indigenous women, Indigenous 2SLGBTQQIA+, and other underrepresented groups.</p>	<p>Add condition 5.3.4.1 that reads: “identify and implement measures to promote equitable recruitment, retention, advancement, and compensation of Indigenous employees, including Indigenous women, Indigenous members of the 2SLGBTQQIA+ community, and Indigenous persons with disabilities, with the objective of reducing barriers to participation and wage inequities within the Designated Project workforce.”</p>
<p>8. AAN requested that destruction of eskers and natural spring features be avoided, and where impacts cannot be avoided, the Proponent must fund and support ceremonial and cultural processes determined by the Impacted Nations.</p>	<p>Add condition 6.1.6 that reads: “identify, in consultation with Indigenous groups, culturally significant landscape features within and adjacent to the Designated Project area, including eskers, natural springs, and other culturally important landforms or sites. The Proponent shall avoid adverse effects on these features wherever feasible. Where impacts cannot be avoided, the Proponent shall, in consultation with the affected Indigenous groups, provide funding or other mitigation measures address the loss or alteration of those features.”</p>



Table 3: Comments on the Impact Assessment Report for the Crawford Nickel Project

#	Document Reference	Comment	Required Revision
1.	Executive Summary	<p>In the executive summary IAAC states that <i>“While the effects are typical for a metal mine, IAAC’s conclusions about effects reflect the scale of the project.”</i></p> <p>While AAN agrees that the scale of the Project is truly immense, AAN disagrees that the effects are typical for a metal mine. The extreme low grade, dunite ultramafic orebody is quite unique and there are no perfect analogues to the proposed Project. The high paste pH of the tailings and employment of IPT carbonation will also inevitably lead to unique challenges at this site highly atypical of metals mines.</p>	<p>AAN is aware that any text change to this quote has potential implications for the entire report, nonetheless AAN requests that the quoted text from the executive summary be revised to read:</p> <p><i>“While, IAAC’s conclusions about effects reflect the scale of the project and that some project effects are likely to be atypical for a metal mine.”</i></p>
2.	Table 2	<p>Row 1 column 2 of Table 2 reads:</p> <p><i>“The project is likely to have positive economic impacts for Indigenous Peoples, in addition to the adverse federal effects on Indigenous Peoples described above.”</i></p> <p>As AAN has stated previously, we have low confidence in the economic impacts of the mine, especially in comparison to our vast experience at other mining operations in our Territory.</p>	<p>AAN requests that the quoted text be revised to read:</p> <p><i>“The project may have positive economic impacts for Indigenous Peoples, in addition to the adverse federal effects on Indigenous Peoples described above. The adverse impacts on exercise of rights are certain if the Project is built, however the positive economic impacts are uncertain.”</i></p>
3.	Table 3	<p>AAN notes that the Table 3 does not include an “extreme” extent of significance row. While not directly applicable to the</p>	<p>AAN requests that a row for “Extreme extent of significance” be added to Table</p>



		<p>Crawford Project, AAN notes that there are reasonably foreseeable projects on our Territory where the “extreme” extent will absolutely be required to accurately assess impacts to our Nation.</p>	<p>3, and included in all future Federal Assessments of Projects.</p>
<p>4.</p>	<p>Section 2.1 – Mine waste and site water management subsection</p>	<p>The Mine waste and site water management subsection of Section 2.1 states that:</p> <p><i>“Initial geochemical characterizations indicate that waste rock, ore, overburden, and tailings are generally non-acid-generating with low metal-leaching potential, and so waste segregation is not anticipated to be required. Nevertheless, the mine-waste management plan would use confirmatory testing to identify materials with ML/ARD-potential. The project would use thickened tailings (i.e., high-density slurry dewatered to a consistency that allows for conical stacking to improve stability) that would be ultimately stored in the tailings management facility until it is full and then in the open pit as each zone is exhausted. In both cases, the tailings would eventually be covered to reduce the potential for ML/ARD including vegetation cover over the tailings management facility and water in the open pit.</i></p> <p><i>Non-ARD potential waste rock would be used to construct haul roads, the tailings</i></p>	<p>AAN requests that the quoted text be revised to read:</p> <p><i>“Initial geochemical characterizations indicate that waste rock, ore, overburden, and tailings are generally non-acid-generating with low metal-leaching potential, and so waste segregation is not anticipated to be required. However, the geochemical characterization indicates that the Project may have challenges with alkaline mine drainage that has received limited attention. Nevertheless, the mine-waste management plan would use confirmatory testing to identify materials with ML/ARD-potential and requires confirmatory testing for alkaline mine drainage. The project would use thickened tailings (i.e., high-density slurry dewatered to a consistency that allows for conical stacking to improve stability) that would be ultimately stored in the tailings management facility until it is full and then in the open pit as each zone is exhausted. In both cases, the tailings would eventually be covered to reduce the potential for ML/ARD including vegetation cover over</i></p>



		<p>dam, and other infrastructure, with excess material stored in laydown areas or the impoundment facility. If monitoring identifies ARD potential in the waste rock, the proponent would isolate and encapsulate it with non-acid-generating rock before storage in the impoundment facility, or the rock would be backfilled into the open pit after excavation.”</p> <p>As AAN has frequently stated, the assessment of Project mine waste through the conventional ARD metrics fails to properly assess the Project risks from <u>alkaline</u> drainage, which the baseline geochemistry indicates is a far greater risk from this Project. This is not characterized at all in the assessment.</p>	<p>the tailings management facility and water in the open pit.</p> <p>Non-ARD and non-alkaline drainage potential waste rock would be used to construct haul roads, the tailings dam, and other infrastructure, with excess material stored in laydown areas or the impoundment facility. If monitoring identifies ARD or alkaline drainage potential in the waste rock, the proponent would isolate and encapsulate it with non-acid-generating rock before storage in the impoundment facility, or the rock would be backfilled into the open pit after excavation.”</p>
5.	<p>Section 2.1 – Controlled effluent discharge to the North Driftwood and West Buskegau Rivers subsection</p>	<p>The Controlled effluent discharge to the North Driftwood and West Buskegau Rivers subsection of Section 2.1 reads:</p> <p>“Apitipi Anicinapek Nation and members of the public expressed concerns regarding the selection of rivers for final effluent discharge, noting their low flows. The proponent had considered the Mattagami River as an alternative effluent discharge point due to its higher flow and assimilative capacity. The Mattagami River has been identified as socially and culturally important to all Indigenous communities consulted. Despite their lower flows, the</p>	<p>AAN requests that the quoted text be revised to read:</p> <p>“Apitipi Anicinapek Nation and members of the public expressed concerns regarding the selection of rivers for final effluent discharge, noting their low flows. Additionally, Apitipi Anicinapek Nation specifically identified the West Buskegau River as of higher cultural importance than the Mattagami River. The proponent had considered the Mattagami River as an alternative effluent discharge point due to its higher flow and assimilative capacity. The Mattagami River has been identified as</p>



		<p>North Driftwood River and West Buskegau River were selected to avoid impacts to the Mattagami River including expanding infrastructure toward it, and to maintain natural drainage patterns and water volumes within each watershed. Effects to fish health from flow conditions of the rivers are considered below.”</p> <p>This section mischaracterizes AAN's position on effluent discharge locations. Specifically, the West Buskegau River is much more culturally important to AAN than the Mattagami River, and the selection of the West Buskegau River and North Driftwood creeks as effluent receivers dramatically increases the impacts to AAN compared to discharge to the Mattagami River.</p>	<p>socially and culturally important to all Indigenous communities consulted, with the exception of Apitipi Anicinapek Nation for whom this change significantly increases adverse impacts on rights. Despite their lower flows, the North Driftwood River and West Buskegau River were selected to avoid impacts to the Mattagami River including expanding infrastructure toward it, and to maintain natural drainage patterns and water volumes within each watershed. Effects to fish health from flow conditions of the rivers are considered below.”</p>
6.	<p>Section 2.1 – Controlled effluent discharge to the North Driftwood and West Buskegau Rivers subsection</p>	<p>The Controlled effluent discharge to the North Driftwood and West Buskegau Rivers subsection of Section 2.1 reads:</p> <p>“IAAC therefore considers a mixing zone of a few hundred metres to be the most realistic estimate of continuous operational effects once refinements are made through permitting. However, there is still outstanding uncertainty as the proponent has not demonstrated how this would be achieved with their current proposal. Within this distance, fish may experience sublethal</p>	<p>AAN requests that the quoted text be revised to read:</p> <p>“IAAC therefore considers a mixing zone of a few hundred metres to be an unlikely estimate of continuous operational effects once refinements are made through permitting. However, there is still outstanding uncertainty as the proponent has not demonstrated how this would be achieved with their current proposal. Within this distance, fish may experience sublethal effects, with occasional short-duration exposures possible farther downstream. If</p>



	<p>effects, with occasional short-duration exposures possible farther downstream.</p> <p>Under normal conditions, Lake Sturgeon occur far enough downstream that interaction with the assumed mixing zone is unlikely. Under rare worst-case conditions, some individuals may be temporarily exposed in the North Driftwood River, but are not expected to experience lasting effects.”</p> <p>The dilution ratio required for the volume of effluent the Project will manage makes it technically impossible to achieve the mixing zone that IAAC has deemed “realistic”. IAAC is basing their determination on an what is in actual fact an unrealistic assumption that consequently underestimate impacts to the West Buskegau River, Sturgeon in the creek, and AAN.</p> <p>Furthermore, the proposed mixing ratio does NOT consider the impacts of untreated seepage which may be a very significant contributor of contaminant loading to receivers that already have insufficient assimilative capacity.</p>	<p>the Proponent is unable to achieve this mixing zone, which is probable given the proposed dilution ratios and assimilative capacity, the sublethal effects are likely to encompass tens of kilometers downstream as the proponents current proposal indicates.</p> <p>Under normal conditions, Lake Sturgeon occur far enough downstream that interaction with the assumed mixing zone is unlikely under the unlikely scenario that the proponent achieves a shorter mixing zone. Under a reasonably foreseeable scenario based on the proponents current proposal, Sturgeon are likely to be exposed in the North Driftwood River and West Buskegau River.”</p>
<p>7. Section 2.1 – Uncontrolled effluent in the North Driftwood River, West Buskegau</p>	<p>The Uncontrolled effluent in the North Driftwood River, West Buskegau River, and Jocko Creek watersheds subsection of Section 2.1 reads:</p>	<p>AAN requests that the quoted text be revised to read:</p>



River, and Jocko Creek watersheds subsection

"The proponent predicted that all contaminant concentrations at the seepage face (where groundwater enters surface water) would meet the MDMER and most would fall below the thresholds protective of aquatic life (i.e., PWQO, CCME CWQL-FAL). For contaminants with elevated background levels (i.e., arsenic, fluoride, chromium VI, silver, iron, and zinc), the proponent does not anticipate additional project-related effects. For the contaminants expected to exceed protective thresholds at the seepage face (i.e., nitrate, nitrite, boron, cobalt, selenium, uranium, vanadium, and phosphorus) the proponent concluded that effects on fish health are unlikely because the seepage face is not fish habitat and does not support chronic exposure."

The Proponent has drawn optimistic conclusions around the impacts of seepage to receivers, especially given the significant uncertainty associated with the highly unusual geochemistry of the project. The Proponents assessment cannot be accepted unquestioningly in this section.

*"The proponent predicted that all contaminant concentrations at the seepage face (where groundwater enters surface water) would meet the MDMER and most would fall below the thresholds protective of aquatic life (i.e., PWQO, CCME CWQL-FAL). For contaminants with elevated background levels (i.e., arsenic, fluoride, chromium VI, silver, iron, and zinc), the proponent does not anticipate additional project-related effects. For the contaminants expected to exceed protective thresholds at the seepage face (i.e., nitrate, nitrite, boron, cobalt, selenium, uranium, vanadium, and phosphorus) the proponent concluded that effects on fish health are unlikely because the seepage face is not fish habitat and does not support chronic exposure. **Apitipi Anicinapek Nation disagrees with this conclusion as the proponents conclusion assesses the impacts of the seepage in isolation from the impacts from controlled effluent discharge, as well as the fact that the seepage face not being fish habitat is irrelevant because the seepage will enter and mix with water that is fish habitat. The proponents assessment also takes an optimistic view of metal loading from seepage."***



Table 4: Edits to AAN Chapter and Summary Report

#	Document Reference	Required Revision
1.	4.3.2 Impacts on the exercise of Section 35 rights; <i>Summary of Analysis provided by Apitipi Anicinapek Nation</i>	"For these reasons, AAN asserts that these findings must guide any decision regarding the project's approval. AAN rightly fears enduring adverse impacts to its rights, culture, and governance, harms that will persist long after the mine closes."
2.	4.3.2 Impacts on the exercise of Section 35 rights; <i>Summary of Analysis provided by Apitipi Anicinapek Nation</i>	"These impacts foretell a significant and irreversible diminishment of AAN member's ability to exercise their rights."
3.	4.3.2 Impacts on the exercise of Section 35 rights; <i>Summary of Analysis provided by Apitipi Anicinapek Nation</i>	"The project is a risk with no margin for error"
4.	Annex 3: Apitipi Anicinapek Nation's Assessment of impacts to the Nation's exercise of rights	"Effluent discharge criteria must approach or meet background water quality conditions at the point of discharge, particularly for sulphate, metals, and pH, through application of best available treatment technologies and adaptive management."
5.	Annex 3: Apitipi Anicinapek Nation's Assessment of impacts to the Nation's exercise of rights	"The two means by which AAN takes a more expansive view is in the baseline to which the project is compared and how uncertainty is assessed."
6.	Annex 3: Apitipi Anicinapek Nation's Assessment of impacts to the Nation's exercise of rights	"We necessarily take a more conservative view on uncertainty because we know that the impacts of the project are more uncertain than what the proponent has presented in their Impact Statement."
7.	Annex 3: Apitipi Anicinapek Nation's Assessment of impacts to the Nation's exercise of rights	"This includes designing a diversion channel for the North Driftwood River using natural channel design principles and installing culverts to maintain fish passage and will require substantial additional off-site fish habitat offsetting measures."



8.	Annex 3: Apitipi Anicinapek Nation's Assessment of impacts to the Nation's exercise of rights	"The proponent is proposing measures to control dust emissions from the site."
9.	Annex 3: Apitipi Anicinapek Nation's Assessment of impacts to the Nation's exercise of rights	"The project is massive, adding to the more than 100 mines, 40,000 mineral claims, and 300 exploration projects across our Territory."

