



Douglas Indian Association Tribal Government

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Anax Yaa Andagan Ye~ Sayeik

Where the Sun Rays Touch First~ Spirit Helper



June 11, 2026

Garside, Chelsea EAO:EX

Project Assessment Officer

Environmental Assessment Office | Government of British Columbia

Mail: PO Box 9426 Stn Prov Govt Victoria BC V8W 9V1

Chelsea.Garside@gov.bc.ca

Re: Comments on Canagold Resources Ltd.'s Application for an Environmental Assessment Certificate.

Please accept these comments on behalf of Douglas Indian Association (DIA) located at 1021 Glacier Ave. Juneau, Alaska 99801

DIA is the historical federally recognized Tribe of the Juneau, Douglas and Auke Bay region. DIA has members with other Alaska Native and American Indian lineage but is primarily comprised of direct descendants of the Tribe's original Base Roll membership originating from the T'aaku Kwáan and A'akw Kwáan clans which inhabited Anax Yaataandagan Yé (Douglas) and Dzantik'i Héeni (Juneau) since time immemorial. The clans of DIA's tribal territory are the Yanyeidí, Tsaateeneidí, Gaanaxadí, Ishkahittáan (T'aaku Kwáan), and L'eeneidí, Wooshkeetaan, L'uknax.adí (A'akw Kwáan).

Alaskan Tribal Nations, such as those represented by the Southeast Alaska Indigenous Tribal Commission (SEITC) are downstream from the mines along the Taku River. Douglas Indian Association strongly opposes the mines due to fears that a mining accident and subsequent mining pollution could devastate our salmon stocks. The Taku River is Southeast Alaska's largest overall salmon producer, with Southeast's largest run of coho and king salmon. Annual Taku salmon runs can top two million wild fish. Taku River's fishery is a vital regional economic driver, and the cultural and subsistence values would be difficult to overstate. These same salmon have a tremendous impact on the quality of life of DIA and Taku River Tlingit First Nation, the spiritual, cultural and historical significance to our People is such that it holds a central place in the subsistence, ceremonial and commercial aspects of our people.

It is alarming that British Columbia has initiated an environmental review process for the proposed New Polaris gold mine in the lower Taku within sight of Tulsequah Chief Mine; That the B. C. Province could be contemplating a new mine in that locale, given the decades of unabated acid mine drainage from the Tulsequah Chief Mine. The abandoned Tulsequah Chief mine has been discharging toxic acid mine drainage into the transboundary Taku River system for many years.

The legal Consent Agreement between TRTFN and Canagold states that Canagold will not build the mine without the TRTFN's formal consent, and they can veto the project based on their constitutionally protected Aboriginal Title and Rights. Douglas Indian Association Tribal Government are downstream from the mines along the Taku River. Our traditional homelands and waters span the lower part of the Taku River watershed on the Alaska side of the border, to this date Canagold has not signed a legal Consent Agreement with the Douglas Indian Association tribe. Douglas Indian Association, alongside the Southeast Alaska Indigenous Transboundary Commission (SEITC) is fighting to change this. Southeast Tribes are demanding that B.C. Canada give downstream U.S. Tribes the same legal rights to review, comment, and reject mining projects that Canadian First Nations have been given.

The Douglas Indian Association is located directly downstream from British Columbia's mining zone; tribal leadership continues a firm stance against the New Polaris mine project. Douglas Indian Association hereby include by reference the comments on this project submitted by the Southeast Alaska Indigenous Transboundary Commission (SEITC).

Regulatory Context

The process order for the New Polaris Project (Project) was issued on January 23, 2025. That means the readiness decision stage is over. The proposed New Polaris Gold Mine project is in the fourth phase of the B.C. Environmental Assessment process.

The current Application submitted by the Proponent is to determine if the existing application has the necessary and complete information required under the Process Order Application Information Requirements (AIR), and that's what the current public comment period is seeking to address. The AIR is the measuring stick used to see if the Application is adequate to fulfill the goal of the BC environmental assessment process. This goal is to ensure that any potential environmental, economic, social, cultural and health effects that may occur during the lifetime of the Project are thoroughly assessed. It further ensures that the Project will promote sustainability, minimize adverse impacts, and involve Indigenous groups.

This is part of a 180-day review period before a decision.

The Project Site

The Project is located about 70 km from Juneau and about 15 km north of the border on the Taaltsuxéi Héen (Tulsequah River) that drains into the transboundary T'aakú Héeni (Taku River).

The site has no road access, no power source, and access will be via barge or plane. The site includes old historic mine workings which have been causing documented ground water and surface water contamination for many years. The proposed mine sits on similar geology it is safe to assume that the potential for metal leaching is quite high.

The establishment of the process order and AIR is one of the most important steps in the British Columbia (BC) Environmental Assessment (EA) process and it is supposed to be informed by meaningful consultation with Indigenous communities. Although the effects assessment area includes the Alaska portion of the watershed and the community of Juneau along with five tribal governments identified as culturally associated with the watershed, all the Tribal governments have been left out of any meaningful consultation process. The AIR states that any effects have the potential to impact the entire Tlingit Nation, yet the AIR fails to even name each Tribal government, define its connections to the T'aakú Héeni or locate them on a map let alone document any meaningful consultation.

Due to the lack of consultation, there are many gaps in information, modelling and risk assessment. Many of these gaps in information may take years to fill such as the development of adequate groundwater flow characterization wells and collecting data to verify modelling assumptions.

AIR fails to address many pathways that will lead to adverse effects throughout the Project lifetime. The gaps in information render any risk assessment or planned mitigation efforts specified. The AIR fails to describe existing conditions and connections between ground and surface water systems or background concentrations at the site, the risks of the transportation plan, tailings containment and long-term Acid Mine Drainage (AMD) maintenance, and fails to adequately describe a hydraulically and socially connected environment.

The current level of information cannot justify the conclusion that the Project will cause no irreparable or adverse effects to our Tribal citizens and communities with any level of certainty.

The Application also fails to mention the lack of a bankable economic feasibility study for the Project and fails to consider the economic contributions of the T'aakú Héeni to southeast Alaska. The economic benefit/harm analysis is unsupported. It does not consider the possibility of bankruptcy once the transportation plan or some other aspect proves difficult. This is a real economic risk. In 2009, Redcorp Ventures Ltd., developer of the Tulsequah Chief Mine, 5 miles

from the Project left 163 business and the state of Alaska holding a debt of \$26,782,420 dollars and ten cents.¹ It has never been paid.

The overall comment about the New Polaris mine application is that it lacks specificity to show that there will be no, especially no lasting negative impacts on the natural resources that tribes have relied upon for centuries. These resources are not only important to tribes, but they also have significant economic benefits that help to bolster tourism, recreational and commercial fishing, and other activities that are important to the region.

In short, the application fails to adequately, let alone thoroughly, provide the information necessary to assess potential environmental, economic, social, cultural and health effects that may occur due to the Project.

Recommendation 1: We ask the proponent to withdraw the application currently to patch the many and glaring holes in the required information before proceeding to a decision.

Recommendation 2: One step to align the AIR with the goals of the BC environmental assessment process is for both the proponent and BC to recognize the Douglas Indian Association (DIA) as the closest, most vulnerable and most impacted Indigenous Nation in relation to the Project, and that DIA and the Organized Village of Kake (OVK) as represented by SEITC, have particular rights and interests on the T'aakú Héeni that are unique and distinct from other Alaska Indigenous Nations.

Recommendation 3: The EAO must amend the AIR to address the concerns of these Nations and SEITC and direct the Proponent to provide adequate time, information, process and capacity funding so they can fully participate. The process of assessment must respect our own values, timelines and governance systems as outlined in the United Nations Declaration on Indigenous Rights.

Recommendation 4: BC must establish, in dialogue with DIA, SEITC, and others, a specific plan for the EAO to conduct meaningful government to government engagement and place an obligation on the proponent to develop the same.

Based on the current information in the Application, the stated goal in the environmental assessment process has not been accomplished. It could be that addressing effects that may only occur far into the future is inherently impossible, or the existence of downstream communities is inconvenient, or that the Proponent and the EAO are incapable of achieving

¹ Redcorp Ventures Ltd. Summary of Vendor Payables on March 20, 2009. (based on invoices entered and those received for the week ending March 20/09).

those goals. What is clear is that the AIR does not adequately address connections; overburden surface water connections, cultural and heritage connections, cross border connections and many others outlined below.

Either way, the AIR is incomplete, premature and lacks an effective pathway to thoroughly assess the environmental, social, cultural impacts and assured they are minimized within the timeframe for a decision.²

The Watershed

The T'aakú Héeni is a 54-mile dynamic river basin draining glaciated uplands and forests and flowing down to the tidal estuaries of Taku Inlet in Alaska 18 miles northeast of Juneau. The river is characterized by extensive braiding on the main stem (numerous side channels and sloughs), fast moving water in the central portion of the drainage, and slow, meandering tributaries in the upper reaches.

The T'aakú Héeni encompasses one of the largest almost completely roadless watersheds remaining along the entire Pacific Coast. It is an energetic, dynamic fluvial environment influenced by glacial processes that create a complex mosaic of fish habitat supporting 21 fish species including all five species of Pacific salmon and eulachon. The watershed provides sustenance to an incredible diversity of land and marine mammals, migratory waterfowl, shorebirds, and raptors increasingly rare and unique in the world. "Unique - the mix of species is not seen anywhere else."³

The T'aakú Héeni is a typical rocky-bed alluvial system with hundreds of meters of permeable and saturated overburden with a myriad of ground water surface water connections and hydrostatic pressure gradients.

² Part C of the process order is as follows: 3.1, The Proponent must consult with the Taku River Tlingit First Nation (TRTFN), Teslin Tlingit Council (TTC), *and any other Indigenous Nation* that is identified by the EAO as required through the Technical Advisory Committee. 3.2, the scope and methods of engagement with participating Indigenous Nations *and with any other Indigenous Nation* is set out in the Assessment Plan and in the Application Information Requirements. 3.3, The EAO will undertake additional measures for consultation, where appropriate, with participating Indigenous nations and with any other Indigenous Nation. 3.4, I directed by the EAO (the project Assessment Director), the Proponent must undertake additional consultation with participating Indigenous Nations *and any other Indigenous Nation identified in the Assessment Plan* (Italics added).

³ Ed Jones, ADFG presentation to Taku River Task Force, January 5, 2012

The watershed is very challenging with main stem and side channels changing and meandering across the valley, annual glacial outwash flooding, landslides, large woody debris flows and 160 km/hour winds. All the while climate change is super charging for each of these.

The T'aakú Héeni is unique too because of the values and resiliency built into the watershed over thousands of years of continuous occupation and stewardship by the people of the T'aakú. The land is shaped by this relationship as the people are shaped and nourished by the land. The landscape and river itself are the result of a long-standing agreement that as you feed us, we will protect you. The land and the people long ago developed a mutually beneficial symbiosis as all natural relationships eventually do.

This region is a product of this relationship. It is resilient to climate change because of that relationship. It is genetically diverse because of that relationship. It is still healthy and productive because of that relationship. The relationship cannot be broken without risking a disaster for the watershed and a loss of global significance. It is not just the effects of the project on people and environment, but also the effects on the environment due to removing the people from the decision making. On this connection, the Application is silent. See

Recommendation 2.

Economic Value

Taku River is the largest salmon producing river system in Southeast Alaska.⁴ The McDowell Group report (2016) estimated the total economic value from all activities on the Taku River to be \$26.7 million annually. Commercial fishing generates \$6 million, sport fishing generates \$2 million, and commercial air activity generates \$18 million (\$13 million directly related to tourism). The economic benefits have a net value of approximately \$50 million in 2016, based on \$2.5 million in economic activity over a 30-year period.⁵ This value is expected to be considerably higher if the study were updated to 2026.

The effects assessment area includes the Alaska side of the watershed and the Juneau and DIA communities. The economic benefits of the Project to Alaska are not addressed in the application and are assumed to be minimal. The risks of the project directly to southeast Alaska are also not adequately addressed but could be substantial. Although five Tribal nations are

⁴ (Page v - Technical Report No. 12-01, Taku-Tulsequah River Mining Activity by Scannell Scientific, Inc. January 2012, Prepared for ADFG Division of Habitat)

⁵ Available at: https://www.akleg.gov/basis/get_documents.asp?session=30&docid=13983

considered culturally connected to the watershed and potentially impacted by the Project, they are not identified, described or located within the assessment boundaries.

The closest example of the negative outcomes is because of an unexamined economic risk occurred when Redfern Resources went bankrupt in 2009 trying to develop the Tulsequah Chief Mine less than 6 miles away from the current Project. Redfern relied on the same transportation plan during construction activities. This risk is not examined or evaluated in the AIR.

Even worse, the bankruptcy left an abandoned site actively discharging acid mine drainage directly into the river. Given the lack of economic certainty of this Project and incomplete information assessment, the same outcome is foreseeable and probable.

Taken together, this information in the application is inadequate to perform a systematic or precise evaluation of impacts anticipated by the Project including how the Project will affect the surrounding ecosystem, local communities, Indigenous rights or to form the basis of strategies to prevent, avoid, or minimize negative effects over the entire lifetime of the Project.

Recommendation 5: The AIR must conduct a thorough analysis of the economic effects of the Project based on the entire watershed and identify mitigation.

The Application is premature, incomplete and risky and should be withdrawn until such time as these gaps are filled. The Environmental Certificate based on this analysis will immortalize this incomplete impact analysis and set baseline conditions and mitigation strategies for now all the way to closure and beyond. It must be done correctly or at least, the risk of not doing it correctly itself should be evaluated. See **Recommendation 1**.

Comments on the Feasibility of the Transportation Plan

The transportation plan calls for servicing the mine site construction needs with about 60 barge trips up the Taku River a year for 2 years all staged from Juneau and 5-10 barges a day during operation. The AIR is inconsistent in the number expected trips. In the operation phase, the project requires flying in supplies and flying out over 30,000 tons of gold-sulfide doré concentration each year using ATR 72 cargo aircraft at a rate of close to 20 daily trips, or 4000 trips a year to Juneau Airport and back. There will be many days, weeks and months, where air or river transportation will be impossible due to water conditions, wind or visibility. The plan vaguely states that additional trips will be scheduled during favorable conditions to make up. Risks due to inadequate supply chain are not examined in the AIR.

Recommendation 6: The AIR must examine the effects of supply chain disruption on consumables such as fuel and water treatment chemicals.

Recommendation 7: The AIR must identify windows of no access and set parameters of the maximum trips per day that could be accomplished to make up.

River Transportation

Section 1.5.2.8 describes Seasonal Constraints including landing craft river transportation. Chapter 1 states that “landing craft transport will be undertaken at times which will have the least impact on local fisheries.” Given that fish will spawn and eggs will need time to hatch, spawning will be vulnerable for some time. Given the overlap in seasons of spawning and transportation opportunities, there will be a tradeoff between impacting fish reproduction and conducting mining operations. Some clear metrics are needed to support objective decisions to protect the fisheries.

Recommendation 8: The AIR must identify the temporal overlap of fish spawning and landing craft traffic and examine the risk to fisheries and the cumulative impacts.

Construction Phase

A study conducted in 2012 concluded that the T’aakú Héeni was found to be a reasonable provider of barging possibilities for small vessels within a short window from May 23 to August 20 (the Application describes a window from June to September). Because the T’aakú Héeni system supports large runs of Chinook, Sockeye, and Coho salmon, the exact spawning period depends on the species and run timing. Generally salmon spawn in the Taku River from late July through October. Avoiding salmon spawning effectively leaves only the month of June for transportation.⁶ River transportation also must avoid impacts to wildlife such as mountain goats, breeding birds, dens, and other sensitive features. Avoidance of impacts on fish and wildlife is unavoidable given the overlap in timing. The suggested development and implementation of species-specific management plans are warranted as part of this Application and not later in response to an adverse impact. The primary goal of the EA is to avoid and minimize adverse impacts.

It was noted in 2012 that this three-month window is far shorter than when the Taku River was last used for industrial barging from 1951 through 1957. It is presumably even shorter now in 2026 as the discharge regime for the river continues to transition from predictable glacial melt to more unpredictable atmospheric events. Outside this May 23 to August 20 barging window the Taku River is predictably a poor provider of transport for industrial purposes, and the risk of adverse effects increases sharply.

Even within this window, the river is still unpredictable for safe transportation. An experienced operator could work at high tides to assist with passage in the lower river, but with the ever-changing channels and sand bars, sufficient river discharge would also be necessary at the time of passage. The considerable discharge variation within any given period of the barging window

⁶ Once spawning occurs, eggs must incubate in undisturbed gravels for 1.5 to 5 months until hatch.

means that on many days, barging would still be very risky. There must be more specificity than “landing craft trips will occur when stage height at Canyon Island is adequate” (7.5.4) to assure impacts are minimized.

The river does not deliver the year-round predictability and low cost needed for industrial barging. The 2012 report found that industrial barging on the dynamic and shallow river was highly impractical and fraught with peril. They concluded that barging as a transport system on the T’aakú Héeni is not economically, politically or environmentally acceptable.⁷

As this Application was submitted, the Proponent announced that after worldwide search they had found only one type of vessel to fit their needs, a 98-foot self-propelled landing-type craft. The Proponent has yet to try this craft on the river. Until then, the predicted impacts of the river transportation plan cannot be assessed.

Recommendation 9: The AIR must analyze the risks of the Project based on far fewer river trips than planned for. The AIR must account for delays in supplies, stockpiling and waiting at staging areas and develop alternative/backup plans.

Boundaries Defined in the EA are Inaccurate

The initial assessment boundary sets the spatial and temporal scope and limits of the EA analysis. Boundary conditions demarcate when a model works, who it works with and where, as well as when it does not work. In so doing, boundary conditions are essential for rigorous deductive research, environmental issues related to time-scales – for example, both climate change and environmental racism represent long-standing environmental issues of sufficient duration. Defined boundaries help answer questions of scale, timeframe, and referents.

The spatial boundaries omit any reference of other recognized Sovereign Nations in Alaska. It does not include the overlap of separate uses, cultures and governance within the watershed. Not being included within the boundary for an effects assessment after being identified as effected stakeholders excluded the information necessary to reach a conclusion of no harm.

Administrative Boundaries (6.3.3) define the limitations imposed on an EA as political, economic, or social constraints. This justifies the international border as implemented by the MOU/SOC that excluded the Tribes. The economic constraints are what is economically feasible for the proponent to afford instead of requiring the use of best technology. None of the economic constraints are defined in the Application.

⁷ Juneau Legislative Delegation Taku River Fact-Finding Task Force Report, 16 March 2012. Available at: https://www.akleg.gov/basis/get_documents.asp?session=27&docid=10449

Temporal Boundaries (6.3.2) of the Project occur in four phases: Construction (2 years), Operations (10 years), Reclamation and Closure (2 years), and Post Closure (10 years). 24 years total. One and done. In the end this contaminated site will be left a contaminated site.

As discussed elsewhere, maintaining the CSF, dealing with flooded and open underground works, AMD management and tracking the plume of contamination will likely last for decades if not centuries longer. This possibility is not adequately considered.

Technical Boundaries (6.3.4) refer to the constraints imposed on an EA by limitations in the ability to predict the potential effects of a project. Many of the limitations on the ability of the EA to predict effects are either self-imposed or due to the expiated nature of this EA review. These limitations include the lack of adequate aquifer monitoring wells, lack of baseline data, untested transportation plan, poor modelling, and lack of deep consultation.

Many of these constraints could be remedied if the Application is pulled from the EA process and time and effort given to filling the gaps.

Technical boundaries also determine the effects analysis; the ability to predict effects. The ability to detect and mitigate effects is further bound by economic feasibility. Do the mitigation plans negatively impact the proponents' bottom-line? The Application gives no information as to the economic feasibility of any mitigation scenario or alternative action described in the Application or economic limitations on future adaptive management planning.

Recommendation 10: The effects assessment boundaries must include the downstream Tribal Nations and communities.

Recommendation 11: Technical boundaries must be better defined to determine the difference between true technical limitations or limitations due to the analysis itself such as lack of data collection or closure requirements that extend much further than identified.

Recommendation 12: The Application should include the cost of various alternatives to the described action, the cost of various mitigation strategies and the necessary adaptive management planning and how it relates to the Project's economic feasibility. Should require

Recommendation 13: The EAO should require the Proponent conduct a NI 43-101 compliant bankable final economic feasibility study.

The biological environment is further divided into separate and numerous Valued Components (VC's) for further effects analysis. Some potential effects are screened out as improbable and dropped from further analysis without much justification or any confidence window described.

The Application does not identify the sovereign Nations within the effects assessment borders or discuss their boundaries or area of interest. The Application does not acknowledge our jurisdiction over the health and well-being of our own Tribal citizens.

We show up on no map, yet the potential negative effects to us (devastating) are well described in Chapter 13. This chapter identifies that the connection of the T'aakú Héeni is through closely shared identity and history among Tlingit peoples. The Application concludes that the potential residual effects of the Project may be felt collectively by all Tlingit peoples including those across the border.

The potential residual effects include changes to community, changes in governance and stewardship systems, changes in language and intergenerational knowledge sharing, changes in community and cultural cohesion, and changes in cultural practices and community health. Given that the Tribes that share this watershed will not benefit from this Project, not even with a cleaned-up old mine site when done, any effects are bound to be negative. Any one of these effects are devastating to our culture.

The Application concludes that residual effects will be regional to an extent, low in magnitude, and occurring within a highly disturbed baseline. So, any one or all these predicted effects may be a low magnitude disturbance, widespread and shared among all Tlingit people, but since it is all happening anyway due to other undefined causes, the contribution from the Project will be lost in the noise. No information is presented to justify this conclusion. No temporal scope or level of confidence is given.

In one section, the Application recognizes the shared values connected to the watershed in language, cultural practice and community yet another section omits any recognition of the actual communities that embody these values. The Application has understood our values enough to decide what level of harm is tolerable without any level of meaningful consultation and imposes a system at odds with our governance structure, disregards our rights, and offers us no effective input or recourse.

Just as with the water quality modelling, the lack of consultation renders the model of potential effects to the Alaska Tribes uncalibrated. The Application contains no supporting data to support the conclusions about the residual effects of the Project to community, changes in governance and stewardship systems, changes in language and intergenerational knowledge sharing, changes in community and cultural cohesion, and changes in cultural practices and community health.

Recommendation 14: The Application should include baseline data supporting the conclusion of a “disturbed baseline. The Application should define the parameters to measure the

effects of the Project on every value listed above and have an adequate plan to monitor for them.

No meaningful consultation with Alaska Tribal governments

The Five Alaska Native Tribes identified (913.2) with traditional territories within the T'aakú Héeni watershed and its tributaries are not adequately identified. There is no demographic data, area use assessment or information on economic dependence on the T'aakú Héeni.

Because the Project is located within the T'aakú Héeni watershed, which crosses the international boundary, potential downstream effects to the US and Alaska Native Tribes must be considered (13.1). No explicit parameters are given as to how these effects were considered in AIR.

The Assessment Plan establishes Alaska Tribes as notified and consulted transboundary Indigenous governments by being given the opportunity to review documents and submit comments. The Assessment Plan distinguishes Alaska Tribes from Participating Indigenous Nations under the Environmental Assessment Act (2018) without an assessment of the strength of their claims.

The purpose of this engagement is to provide Alaska Tribes with opportunities to receive information, review assessment materials, and provide input on potential transboundary effects of the Project. The Assessment Plan commits the EAO to only notify Alaska Tribes at key stages of the EA process.

The level of this engagement is at the lowest level along the spectrum defined in the Haida decision. There is no recognition of the Tribal governance systems, decision-making process, protection of traditional knowledge, and no dialogue. Comments and concerns carry no weight in the EA process.

On December 10 of 2024, the Douglas Indian Association (DIA) formally put BC on notice of rights on the T'aakú Héeni that must be protected. BC responded by notifying DIA that the new Polaris was entering into the EA Process and requested information to support that claim.

The request is unwarranted because it is a legal duty to consult and accommodate DIA on this Project was triggered on December 10, 2024, when DIA submitted notification. The duty of consultation is triggered when the Crown has knowledge, real or constructive, *of the potential* existence of Aboriginal rights (including title); and contemplates conduct that may adversely affect these rights.

Other member Tribes of SEITC has submitted extensive evidence on the Jòonax River in relation to the Eskay Creek Mine. BC neither acknowledged the evidence nor provided any review before denial. This pathway is not a recourse for the Alaska Tribes.

Declaration on the Rights of Indigenous Peoples Act, and SBC 2019, c. 44 (DRIPA), recognizes the importance of respecting Indigenous peoples' cultural relationships, governance systems, and connections to traditional territories. Additionally, the Supreme Court of Canada's decision in *R v. Desautel*, (2021 SCC 17) confirmed that Indigenous peoples located outside of Canada may hold Aboriginal rights under Section 35 of the Constitution Act, 1982 when they are members of Indigenous societies that historically occupied territory that is now a part of Canada.

Section 35 of the Constitution Act, 1982, c.11 recognizes and affirms the existing Aboriginal and treaty rights of Indigenous Peoples in Canada, including First Nations, Inuit, and Métis. These rights encompass traditional territory and practices, land use, governance, and cultural continuity. These rights are constitutionally protected. Affirming these rights are indispensable for their existence, well-being and integral to their right of self-determination as people.

While recognizing that there is no universal definition of what these rights are and given that they may vary among Indigenous communities, the BC government has defined Indigenous rights as follows: • rights to the land • rights to subsistence resources and activities (i.e. hunting, fishing, trapping, resource gathering) • the right to self-determination and self-government, and • the right to practice one's own culture and customs including language and religion. These rights were triggered at the time of notice. The AIR does not address the Projects impact to these rights.

The Duty of Consultation

Review of the Application and available evidence indicates that neither the BC EAO, nor the Proponent, have adequately recognized or meaningfully engaged regarding the particular and extraordinarily deep relationship of Douglas Indian Association (DIA) and Organized Village of Kake (OVK), both represented by the Southeast Alaska Indigenous Transboundary Commission (SEITC), to the T'aakú Héeni and other areas adjacent to the Project.

DIA is the nearest Indigenous Nation to the Project and the only one directly downstream. Douglas Island, at the mouth of the Taku River, is approximately 60km from the Project (see application s. 13.2.1.1), and is the location of a long-standing Taku Tlingit Kwáan winter village. DIA's cultural reliance on the lands and waters of these rivers predates the establishment of the Canada-USA border in the early 20th century, or prior colonial borders between Russia and British interests.

As noted in the application, the easiest non-air access to the Project area is by boat up the Taku River from the area of Douglas Island. As such, DIA is the most directly connected Indigenous Nation to the lands and waters impacted by the Project, and the most likely to be directly and indirectly impacted by the Project including impacts to ground and surface water, impacts to access, sense of place, and to Tlingit cultural practices and way of life, including protected subsistence, cultural and stewardship practices within BC and across the Canada-USA boundary.

DIA and OVK, as represented by SEITC, have Indigenous knowledge that, based on the AIR, must be included by the Proponent through this application, and this must be considered by the EAO.

This knowledge includes unique and detailed Tlingit knowledge of use and occupancy values, animal and fish habitat values, environmental changes, and impacts to Indigenous practice resulting from changes in the environment, and existing and ongoing contaminant impacts from the unpremeditated Tulsequah Chief mine. This Indigenous knowledge is critical to both baseline determination and the effects assessment.

The AIR requires inclusion of Indigenous knowledge across all VCs, however DIA and OVK knowledge is entirely lacking from the application.

Recommendation 15 request for the EAO: Please provide confirmation of how the EAO has considered the particular relationship of DIA and OVK, as represented by SEITC, to the Project area, and the reasonable inclusion of these transboundary groups as Indigenous nations of Canada, with rights and interests in the Project area that predate the Canada-US border, and as US Tribes with protected rights on the US side of the border. Per parts C3.3 and C3.4 of the Project Order, the EAO should undertake "additional measures for consultation" and should direct the proponent to undertake additional meaningful consultation with DIA and OVK, as represented by SEITC. All consultations with DIA and OVK, as represented by SEITC, should take into consideration the particular and extraordinarily deep relationship of downstream Tlingit communities to the Project area.

Recommendation 16, request for the Proponent: Considering that adequate consultation requires provision of adequate time, information, process and capacity, please provide a summary of efforts made to date by the proponent, or planned prior to conclusion of the 180 day period, to support and enable adequate consultation with DIA and OVK, as represented by SEITC, and to ensure that DIA and OVK knowledge, as coordinated through SEITC, is included as Indigenous knowledge within the Application as required under the AIR.

Recommendation 17, request for the Proponent and the EAO: Our understanding is that, to date, consultation with DIA and OVK, as represented by SEITC, has not been adequate based on available evidence regarding the strength of DIA and OVK rights and interests and the potential consequence of Project impacts to DIA and OVK. DIA, OVK and SEITC appear to

have been entirely left out of process planning, development of the AIR, the Assessment Plan, and of the initial application. Please provide a clear plan, developed with SEITC, to correct this situation consistent with the Honour of the Crown. In particular:

- EAO should amend the Application Plan to clearly indicate EAO and proponent responsibilities to DIA and OVK as represented by SEITC, given their status as critical Indigenous nations, separate from other Alaska Tribes, and separate from the Participating Indigenous nations.
- The Application review period should be paused to allow the proponent and the EAO to adequately engage with DIA and OVK, as represented by SEITC, consistent with an amended Application Plan. This should include developing a specific assessment work plan, agreement, or similar document, designed to address, enable and plan for the meaningful engagement of DIA and OVK, as represented by SEITC.
- A pause of the Application review period should be of sufficient duration to allow completion of key baseline DIA and OVK knowledge studies coordinated by SEITC, follow up review of Project documents, and update of VC assessments, including cumulative effects assessments, based on resulting Indigenous knowledge, consistent with the AIR (e.g. sections 6.0, 6.3, 6.4, 7.1, 7.4.4 and others). Ordinarily, this would require at least 9 to 12 months and provision of adequate capacity funding.

Issues with the Project Effects Assessment.

Potential Effects (6.5). Effects on the biophysical and human environment can either be direct or indirect referring to the environmental and socio-economic consequences of the Project.

The Application does not consider induced effects, for instance a reduction in available subsistence foods causing local families to spend more money on food and less on durable goods and services creating a ripple effect throughout the broader economy.

The Application does not consider potential side effects, unintended or secondary consequences that occur alongside the initial disturbance. This is frequently associated with mitigation activities where the mitigation itself has adverse effects or technology by products such as water treatment sludge accumulates. It is also associated with loss of cultural identity when that identity is not recognized within this process.

The application does not address potential synergistic effects occurring when two or more distinct environmental or social impacts interact and create an overall effect much greater than the sum of the individual effects. Treating the groundwater contamination blob as a mass unit rather than the effects of individual pollutants is one of many examples of this flaw in AIR.

Risk and Uncertainty (6.8.3). For the purposes of this EA, risk and uncertainty are defined in the AIR as the likelihood of the effect occurring and the consequences (over all the values ensured protection as the goal of the EA process) if the effect should occur. Essentially two predictions looking decades if not centuries forward.

It needs to be put into the record that predictions are not facts. Facts belong to the present and past. It does not mean that all predictions are unrelated to facts like a 60 percent chance of rain prediction one has reason to trust. The predictions in EA are not weather forecasts. They do not have an array of monitoring, a long database of performance records or a calibrated model backing them up. The predictions in the Application are largely unverifiable and unfalsifiable and some far off in the future. This allows those who create predictions to avoid accountability.

Predictions are wishful. What we desire influences our predictions. It is more than subjective or objective facts. The EA justifies the purpose of the project as a net overall positive for BC and the Proponent and underestimates or does not define the negative effects throughout the AIR to get to that end.

Predictions are about power. Predictions are often power moves more than they are attempts to acquire knowledge. Power is the ability to motivate people to act as they otherwise would not. Marketing to support social license.

Predictions are sometimes impossible. Predictions over 100 years have very little certainty. Predictions over infinite time are not possible. This relates to the long-term maintenance of the CSF and groundwater building up behind cement caps among other long-term risks. Those predictions have no value.

Predictions are often harmful. They can change people's expectations and behavior. The choice of making predictions has consequences for people. The prediction that the regional Tlingit culture, language and community cohesiveness will impact itself can contribute to these effects through documenting an expectation.

Recommendation 18: Predictions themselves have effects and these effects must be included in the AIR and examined as risk pathway of their own.

EA predictions in general are also very unreliable due to the complexity of the environment and the potential long-term consequences. Studies such as Kuipers/Maest, 2005⁸ analyzed 32 hard rock metallic mines to gauge how accurate the EA predictions about downstream and ground water quality turned out to be. Most mines failed to protect ground and surface water quality, even where impacts were predicted and mitigation measures included in the decision.

⁸ Available at: <https://earthworks.org/wp-content/uploads/2021/09/PredictionsReportFinal.pdf>

A 2025⁹ study reviewed eight hard rock mines permitted under modern mining regulations found that despite predictions and detailed mitigation strategies, all eight, including the nearby Kensington, degraded downstream surface water quality. Seven of the eight mines degraded groundwater quality, (only because the 8th mine did not collect groundwater data). Seven out of the eight routinely exceeded permit limits.

Performance history of metallic mining in sensitive habitats lives in the world of facts. It is verified. Predicting no effect from mining in sensitive habitat is being wishful. The data we have on actual performance necessitates a high level of uncertainty baked into the EA cookie at least and a full stop sign at best. This watershed is too important.

Recommendation 19: The AIR must include information on past performance and the risk assessment adjusted. The Application must describe safeguards and precautions to avoid the same outcomes. Doing it the same way is not adequate.

Water quality

Analysis of Surface Water Predictions

The Application predicts concentrations and movements of water in shallow alluvial and deep bedrock by developing a model based on how they think water is connected throughout the Taaltsuxéi Héen and T'aakú Héeni system. The goal is to ensure minimal contamination from the Project and no long-term detrimental effects for the operating life of the mine.¹⁰

The Modeling Report¹¹ projections determined the project will have little to no measurable effect on water quality in the T'aaku Heeni. This conclusion is unsupported.

A review of the water quality modelling shows that it is insufficient to determine if the reasonably expected highest level of contamination will exceed environmental criteria.

One issue is that the Application indicates the surface water model used in this determination was modified specifically to fit this project. There is no documentation to support any effort taken to ensure that the modified model performs in a manner that is consistent with the actual model or if it can be calibrated through the current monitoring design. The AIR lacks

⁹ Available at: https://www.savetheboundarywaters.org/sites/default/files/resource-file/Modern%20Mine%20Study_March%202025Final.pdf

¹⁰ (Technical Report No. 12-01, p. 53).

¹¹ Volume 7.4-3 p. 63

information on how the model was calibrated to begin with and what data was used for calibration.

Moreover, the model was calibrated on a specific reach of the river. Applying a calibration for one reach is inadequate to understand the uncertainty of the model. The uncertainty and limitations of the model are not addressed in the Uncertainty and Limitations section in the Application. Lacking information on the limits of the model and level of uncertainty, the model can make no conclusions about the expected impacts with any level of certainty. The model cannot justify the precision of a “no measurable effect on water quality in the T’aaku Heeni”. Even with the best models, great data, and ideal calibration, environmental models all have uncertainty. This project has none of those ingredients.

The conclusion of the model is unsupported without this information.

Recommendation 20: A parallel study must be conducted between modified and unmodified modelling results to gauge comparable precision and accuracy and more actual data collected to calibrate the water quality model before any predictions can be made for risk. Such information is needed to understand the confidence that can be placed on results.

There are some other significant areas where the information in AIR is lacking in surface water modeling. One scenario not addressed is the unidentified seeps in the mine workings that will contribute to acid mine drainage.

On page 36 the model incorporates a one-time flush mass load but the specifics of that load and how it affects modeling results are unclear.

Source control during operations is by collecting contact and mine water, treating and release. For the closure, cement caps are described. Cement cap blowouts happen and it would be helpful to understand that the modeling reflects conservative high-end release of acid mine drainage scenario. The analysis does not distinguish between what would likely be captured by the collection system and when the capacity of the collection system would be overwhelmed.

Many parts of this Application have a direct nexus to water quality. Too many to list here. Project discharges for the long term will be in alluvial groundwater. This will directly influence surface water quality.

Section 7.4 Water Resources summarizes surface and groundwater monitoring and modeling. Baseline GW and surface water studies were conducted 1997-2025. A hydrogeological study was completed by URS in 2007. Long term modeling was also completed by Ausenio in 2026.

Recommendation 21: These studies should be carefully reviewed by a qualified independent hydrogeologist. This is reason to believe that the potential for adverse effects has been underestimated, and more study of this issue should be required.

Analysis of Groundwater Predictions

Past mining activities have affected the groundwater below the New Polaris mine site through historical discharges, waste rock, tailings deposits and general waste on the ground. Water from the historical mine seeps from the Polaris Portal and flows overland to Whitewater Creek. Water also seeps from the historical mine through rock fractures and potentially through exploration boreholes that intersect historical mine workings. It eventually discharges under pressure to the alluvial aquifer towards the Taaltsuxéi Héén.

Project Setting as it relates to Ground Water

The Project site is in an alluvial valley system that consists of a large river-connected aquifer comprised of coarse sand and gravels, with overburden thickness ranging from 50 to 200+ meters in the valley center.

Beneath the overburden is a heavily faulted mix of rock types including limestone with potential karst features. Hydraulic conductivity at the faults is an order of magnitude higher than surrounding bedrock. The karst can create differential pathways through ground water, channeling rather than diluting contaminants. The effects of karst are not addressed.

There are direct groundwater connections between deep bedrock groundwater under pressure in shallow overburden aquifer, and the surface waters including wetlands. Multiple preferential flow paths exist through sand/gravel channels, weathered bedrock surface, fractures, and fault zones none of which are adequately characterized or incorporated into the model or predictions.

Deep bedrock groundwater discharges upward into the overburden system due to pressure from higher elevation recharge areas. This upward flow means contaminants from underground mine workings will eventually migrate to shallow aquifers and surface waters rather than be diluted down a topographical down gradient after closure. This is not accounted for in the model (or the underdrains for the tailings pile).

Site characterization in the Application

The site is poorly understood and there are many gaps in the information. One gap is the inadequate network and depth of groundwater monitoring wells. Currently it is an array of shallow overburden wells (11) and only one shallow bedrock well. There are no wells monitoring the overburden at depth. No wells at overburden/bedrock contact zone (a known preferential flow pathway) and no wells near the depth or location of the proposed underground mine workings. This monitoring system is incapable of predicting or monitoring the effects of the Project.

Without deep bedrock wells at mine depth, the groundwater models cannot be calibrated with real data and are unable to detect contamination pathways. The entire deep groundwater system is essentially uncharacterized below the shallow overburden, and no data has been collected at or near mine depth.

Another data gap is any real discussion about quality and quantity effects to White Water Creek due to the continuous pumping of lower mine workings. A hydrostatic gradient map shows ground water depression around the underground workings directly below White Water Creek, but there is no analysis or mention of effects downstream.

The range of possible impacts and risks to Flannigan Slough in the AIR is overly narrow and the lack of understanding overburden ground water connections at the site make the ability to predict possible effects uncertain.

Flannigan Slough is an exceptionally large wetland complex located at the confluence of the Tulsequah and Taku Rivers. Flannigan Slough, and the other sloughs and backchannels in the area, have high wildlife values and are important areas for trumpeter swan nesting, moose, and other wildlife. The concentration of sensitive ecosystems and high wildlife and fish values make Flannigan Slough and surroundings an ecologically important area.

The AIR lacks a thorough understanding of how the discharge travels and lacks the acknowledgement of that uncertainty when predicting effects on Flannigan Slough. The AIR also lacks an analysis of environmental, social, cultural, heritage and cumulative effects if Flannigan Slough were to be impacted.

Since most of the Project water flows toward White Water Creek overburden ground water connections must be clearly understood prior to making surface water quality predictions. The connections from the mine stie to White Water Creek remain poorly understood.

The Application omits many studies of groundwater interactions customarily used to assess impacts and describe certainty. For instance:

There is no Groundwater-Surface Water Interaction Study. This would have included an assessment of the effects to Whitewater Creek gaining/losing flow, due to mine dewatering despite being standard practice to conduct such study.

There are no geophysical surveys to map preferential flow paths in overburden or bedrock, leading to highly uncertain groundwater models and a failure to accurately predict effects on surface waters and aquatic life. Bedrock valley geometry is poorly understood.

Underlying overburden and bedrock structural analysis is lacking. There are insufficient field verification and mapping of faults, fractures, karst and other preferential flow paths.

The simulated water levels show inconsistencies near portal where discharge occurs, suggesting model inaccuracy.

Recommendation 22: The EAO and proponent must take the necessary steps to identify all pathways of overburden and surface water connections and preferential flow channels including monitoring wells drilled to the depth and location of possible exposure pathways in relation to values that require special protection.

Recommendation 23: The AIR must include information on expected changes to flow and volume of White Water Creek for the duration of the project. Any determination of risks, effects or probabilities must be withheld until the AIR identifies and analyzes these risk pathways.

Long term effects

The Application mentions the development of a post-closure contaminated plume migrating through the ground water contains little description. There is a high level of uncertainty about contaminant migration after hydraulic containment ends.

Modelling of plume migration does not specify the solute and instead uses generic "mass concentration" rather than levels of specific contaminants, limiting the predictive value of any effects analysis. The plume predictions lack information about preferential flow paths.

The limitations and uncertainty in the ground water predictions are extensive. Overall, the ground water model is an oversimplification. The model treats the alluvial system as a homogeneous porous medium when groundwater flows in the overburden and bedrock along preferential flow paths through faults, fractures, and gravel channels. This homogenization has the effect of treating contamination as diffuse and diluted rather than channelized. This view results in an under-prediction tendency (bias). Models that misunderstand groundwater seepage sources, volumes, and pathways generally are poor at predicting impacts to any scale or time.

Recommendation 24: We strongly suggest that an independent hydrogeologist review the surface and ground water modelling reports noted below since Canagold concluded that the project will not have any significant impact on surface or groundwater. This is reason to believe that the potential for adverse effects has been underestimated, and more study of this issue should be required.

Recommendation 25: Further geophysical investigations of overburden to identify preferential flow paths in groundwater and shallow bedrock must be completed to inform the AIR.

Recommendation 26: Additional overburden boreholes, hydraulic conductivity testing and monitoring of well surrounding project infrastructure and downgradient following

preferential flow paths to surface waters must be established and enough data collected to determine background concentrations and flows.

Recommendation 27: Additional deep bedrock boreholes are necessary to understand hydraulic properties down to the maximum depth of mining and install monitoring wells.

Recommendation 28: A detailed groundwater – surface water interaction study (a.k.a. flow and load accretion study) of Whitewater Creek to understand if the creek is consistently fed by groundwater baseflow along its entire length and measure the solute load to the creek from impacted groundwater.

Analysis of the monitoring requirements

There should be a robust monitoring program to confirm that water management is capturing and treating water so that contaminant levels are decreasing as they should with sound water management and treatment of legacy waters. Monitoring information can also help to identify when there are unexpected sources of contamination that need to be addressed.

Page 48 states that the Surface Drinking Water Quality Monitoring has performed adequately but does not state by what objective criteria this determination was made. This information must be included in the AIR.

Analysis of the Closure Plan

The area already is subject to contamination from legacy operations. Underground mining generally leads to acid mine drainage, which can last hundreds or thousands of years and this one is not likely an exception. The conclusions of the Sustainability Assessment (page 11) state that the Project “has the potential to contribute positively to regional and provincial sustainability objectives through employment, economic activity and government revenues associated with responsible resource development” but offers no evidence for the Alaska side of the Regional Effects Assessment Area.

From an environmental sustainability perspective this is false because mining is a depleting activity to start with but beyond that, a new mining operation should improve the environment where there have been legacy mining operations. This is especially important in an area where indigenous tribes seek to continue the use of lands for traditional hunting, fishing, cultural and other uses.

Section 1.8 describes the conceptual reclamation and closure plan.

At this stage financial assurance will be required. This section specifies that a surety bond will be provided to ensure all reclamation and closure obligations are kept by the Company. A

timeframe of 50 years is specified elsewhere in the document, but acid mine drainage will continue thousands of years afterwards.

The Proponent notes that they have initiated engagement with the TRTFN on the development of a Reclamation and Closure Plan that includes a vision statement, draft land use of objectives, design measures, water management and other topics. Such plans are important, but they should also include objective metrics to show planned versus actual progress.

Page 73 also states that concrete slabs will remain in place and covered with alluvial gravel and stockpiled topsoil. This is another example of failing to restore the land to a condition so that it could safely support life as it did before mining operations. On this same page, 50 cm of sand and gravel over the entire CSF to encapsulate tailing and waste rock is hardly a durable remedy because animals could burrow into the material exposing the tailings to air and water.

The artist's rendition of the reclaimed CSF shows trees growing on it. These trees will be subject to windthrow exposing the root balls and easily breaching the cover. Keeping large trees from growing on the CSF will be another long-term, if not into perpetuity commitment that must be reflected in the financial assurances.

The AIR lacks information about effects after liner failure in 30 years or the pressurized water tables effect on the CSF. These eventual pathways must be better identified and assessed.

The upper mine workings will be exposed to air and possible acid generation, but water will accumulate to an unknown elevation due to the positive hydrostatic gradient in the area. The plan calls for cement plugs (caps) to prevent the drainage of contaminated mine water. The application does not address the lifetime of the plus or the effects when they do fail. The 2015 Gold King Mine wastewater spill in Colorado was an environmental disaster caused by a relevantly small volume of water. There is nothing in this plan to prevent the same outcome.

Recommendation 30: Objective analysis of these and other possible failure modes must be identified with metrics established to assist in measuring effects and carried out for the duration of the possible effect.

Cumulative Effects Analysis

13.9 Cumulative Effects. Effects interacting with the potential residual effects of other past, present, and reasonably foreseeable future projects and activities.

The Application states that no residual transboundary effects were identified for air quality, marine use, wildlife, aquatic resources or any measurable or persistent residual effect in Alaska. The only residual risks would be from the rare, localized accident.

This conclusion is unsupported in the AIR.

The cumulative effects assessment area did not include the five Tribal communities identified as potentially impacted in the AIR. The EA boundaries are defined as the maximum spatial and temporal scales over which there is a potential for residual effect but fail to encompass our actual communities.

The AIR lacks an analysis of how effects interact with each other such as acting in an additive, synergistic, compensatory or masking manner or how these may affect confidence in the predictions.

This conclusion gives outsized power to a line on a map. Effects on the BC side are probable and actively occurring. This already affects the Alaska side through fisheries, wildlife corridors, habitat integrity and ability to practice culture based on a connected watershed. Even if dissolved metals or some other measure could not be detected at the border, the mine site is 7 to 10 miles (about 11 to 16 kilometers) upstream and in the words of Senator Jesse Kiehl, "that is one hell of a mixing zone."

An environmental assessment "should include the cumulative effects of the Tulsequah Chief, New Polaris, and Big Bull mines on fish and wildlife habitats and water quality."¹² The report identifies a biological sampling program including water, streambeds, aquatic invertebrate communities (e.g., mayfly communities); fish communities, and fish tissue.

These surveys and their results at the Tulsequah Chief and Big Bull projects are not discussed so the cumulative effects to wildlife and water quality are unknown. A study for Redfern (2007) presented by ADEC shows significantly elevated levels of some metals appearing to be generated by leaching of sulfides from the former Tulsequah Chief and Big Bull Mines on the Tulsequah River. "'There is existing acid rock drainage (ARD) from early mining; the ARD emanates primarily from abandoned waste rock piles and exposed rock surfaces. The ARD and associated metals leach into the Tulsequah and potentially affect aquatic populations, including spawning and rearing anadromous fish."¹³

The cumulative effect analysis fails to include the massive Thorn Project, owned by Brixton Metals. This copper-gold-silver-molybdenum prospect is located along the Sultahine River, a tributary in the Taku River watershed. This land block represents the largest contiguous mineral claim area in BC.

The cumulative effects analysis does not consider or evaluate several dozen active federal lode and placer claims near the southern terminus of the Taku Glacier and along the north side of Taku Inlet. It does not include the proposed Amalga Gold Project north of Juneau using the

¹² Technical Report No. 12-01 p-51

¹³ Technical Report No. 12-01, p.-v)

same trucking-to-barge plan over the same roads. All environmental and social effects of the Amalga Gold project must be considered since the projects are connected.

The cumulative effects analysis does not include the potential of re-opening the AJ Mine, brought up often to the Assembly or the Snettisham Iron Prospect less than 20 miles from the confluence of the T'aaku Heeni. It does not mention or analyze the cumulative effects of the cruise ship industry operating on the same roads and waters. 15-20 thousand tourists a day in the 10-block section of downtown transportation corridor between the airport and barge facility. It does not mention the whale-watching industry or commercial gillnet fishery and sport boats vying for the same marine access and contributing to effects.

All of these are within the transportation corridor and effects assessment boundaries.

Recommendation 31: Development of these claims and the effects of these other projects must be added to the cumulative effects assessment in the AIR and the risk assessment adjusted accordingly.

Analysis of the Summary of Transboundary Effects in the United States and Alaska Tribes, Chapter 13.

The AIR proports to provide a high-level synthesis of relevant pathways and findings from the broader Application, focusing on those Project components and environmental interactions most likely to have potential cross-border implications. Yet for all the reasons cited elsewhere in these comments, this is not the case.

At one point the AIR identifies landing craft traffic as the only Project component to interact with transboundary marine resources.

The AIR fails to identify ground water pathways from the mine site through the alluvium to surface waters. It can make no accurate statements as to the impact groundwater and surface water contamination occur across the border.

The AIR lacks information on the environmental, social and cultural status of the downstream Indigenous Nations and therefore can make no conclusions as to the effects of the Project on Alaska Tribes. Again, the conclusion of no transboundary effects is unsupported. This overly precise conclusion prevents any discussion of avoidance or mitigation.¹⁴

¹⁴ Strictly speaking, the Application can only speak to probabilities of effects within a certain range of confidence. Making the statement of “no” transboundary effects is not within the scope of the application information presented. The best conclusion this information could produce is that there may be a low probability of transboundary effects with a high level of uncertainty. Even this conclusion is not supported by the Application information.

In Schedule B – Assessment Plan for the New Polaris Gold Mine Project, ‘transboundary effects’ are similarly only referred to in the context of consulting Alaska Tribes under the Memorandum of Understanding and Statement of Cooperation Between the State of Alaska and the Province of BC (MOU/SOC). This agreement does not address effects on the environmental, social, economic or health of the Alaska Tribes.

The MOU and SOC are not relevant and do not represent consultation with the Alaska Tribes. Section 8(a)(iii) of the SOC speaks to the establishment of one or more councils of Tribes to engage with the Bi-lateral work group on implementing the SOC. This was never implemented.

Interestingly, the SOC at 5(a)(i-ii) speaks to the concern [risk of] a deficiency in the design, placement, construction of a mine structure designed to store tailings or wastewater that could lead to a catastrophic failure resulting in significant degradation of transboundary waters and causing financial impacts to communities as a result of mine-related incidents.

Other than an acknowledgment of another predicted outcome, there is no mechanism in the MOU/SOC to assure sufficient design. We must hope this is not the project the MOU/SOC predicted.

No meaningful consultation with all the Alaska Tribal governments

The Five Alaska Native Tribes identified (913.2) with traditional territories that overlap with the T’aakú Héeni watershed and its tributaries are not adequately identified. There is no demographic data, area use assessment, economic connection with the T’aakú Héeni, and they show up on no map.

Because the Project is located within the T’aakú Héeni watershed, which crosses the international boundary, potential downstream effects to the US and Alaska Native Tribes must be considered (13.1). Any precolonial strength of claim information presented is ignored as path to a no effects assessment. No explicit parameters or metrics are given as to how the Project effects may impact the Alaska Tribes.

The Assessment Plan establishes Alaska Tribes as notified and consulted transboundary Indigenous governments by being given the opportunity to review documents and submit comments. The Assessment Plan distinguishes Alaska Tribes from Participating Indigenous Nations under the Environmental Assessment Act (2018) without an assessment of the strength of their claim. The AIR commits the EAO to only notifying Alaska Tribes at key stages of the EA process.

The level of this engagement is at the lowest level along the spectrum defined in the Haida decision. There is no recognition of the Tribal governance systems, decision-making process,

protection of traditional knowledge, and no dialogue. Comments and concerns and western science and history carry no weight in the EA process.

As noted in the AIR, the Inter-American Commission on Humans Rights found probable violations of the rights of Alaska's Tribes over several mining projects.

The Douglas Indian Association (DIA) formally put BC on notice of rights on the T'aakú Héeni that must be protected on December 10 of 2024. BE responded by notifying DIA that the new Polaris was entering into the EA Process and requested information to support its claims.

The request is unwarranted because it is a legal duty to consult and accommodate DIA on this Project was triggered on December 10, 2024, when DIA submitted notification. The duty of consultation is triggered when the Crown has knowledge, real or constructive, of the *potential* existence of Aboriginal rights (including title); and contemplates conduct that may adversely affect these rights.

Other member Tribes of SEITC have submitted extensive evidence for the Jòonax River in relation to the Eskay Creek Mine. BC neither acknowledged the evidence nor provided any review before denial. This pathway for consultation has been denied for the Alaska Tribes.

Declaration on the Rights of Indigenous Peoples Act, and SBC 2019, c. 44 (DRIPA), recognizes the importance of respecting Indigenous peoples' cultural relationships, governance systems, and connections to traditional territories. Additionally, the Supreme Court of Canada's decision in *R v. Desautel*, (2021 SCC 17) confirmed that Indigenous peoples located outside of Canada may hold Aboriginal rights under Section 35 of the Constitution Act, 1982 when they are members of Indigenous societies that historically occupied territory that is now a part of Canada (*R. v. Desautel*, 2021).

Section 35 of the Constitution Act, 1982, c.11 recognizes and affirms the existing Aboriginal and treaty rights of Indigenous Peoples in Canada, including First Nations, Inuit, and Métis. These rights encompass traditional practices, land use, governance, and cultural continuity. These rights that are constitutionally protected affirming these rights are indispensable for their existence, well-being and integral development as people.

While recognizing that there is no universal definition of what these rights are, given that they may vary among Indigenous communities, the BC government has defined Indigenous rights as follows: • rights to the land • rights to subsistence resources and activities (i.e. hunting, fishing, trapping, resource gathering) • the right to self-determination and self-government, and • the right to practice one's own culture and customs including language and religion. These rights were triggered at the time of notice.

Review of the AIR on duty to consult Alaska Tribes

Review of the AIR and available evidence indicates that neither the BC EAO, nor the Proponent, have adequately recognized or meaningfully engaged regarding the particular and extraordinarily deep relationship of Douglas Indian Association (DIA) and Organized Village of Kake (OVK), both represented by the Southeast Alaska Indigenous Transboundary Commission (SEITC), to the T'aakú Héeni and other areas adjacent to the Project.

DIA is the nearest Indigenous Nation to the Project and the only one directly downstream. Douglas Island, at the mouth of the Taku River, is approximately 60km from the Project (see application s. 13.2.1.1), and is the location of a long-standing Taku Tlingit Kwáan winter village. DIA's cultural reliance on the lands and waters of these rivers predates the establishment of the Canada-USA border in the early 20th century, or prior colonial borders between Russia and British interests.

As noted in the AIR, the easiest non-air access to the Project area is by boat up the Taku River from the area of Juneau and Douglas Island. As such, DIA is the most directly connected Indigenous Nation to the lands and waters impacted by the Project, and the most likely to be directly and indirectly impacted by Project impacts, including impacts to ground and surface water, impacts to access, sense of place, and to Tlingit cultural practices and way of life, including protected subsistence, cultural and stewardship practices within BC and across the Canada-USA boundary.

DIA and OVK, as represented by SEITC, have Indigenous knowledge that, based on the AIR, must be included by the Proponent through this application, and this must be considered by the EAO.

This knowledge includes unique and detailed downstream Tlingit knowledge of use and occupancy values, animal and fish habitat values, environmental changes, and impacts to Indigenous practice resulting from changes in the environment, and existing and ongoing contaminant impacts from the unpremeditated Tulsequah Chief mine. This Indigenous knowledge is critical to both baseline determination and the effects assessment. This knowledge belongs to us.

The AIR requires inclusion of Indigenous knowledge across all VCs, however DIA and OVK knowledge is entirely lacking from the application.

Recommendation 32: Request for the EAO: Please provide confirmation of how the EAO has considered the particular relationship of DIA and OVK, as represented by SEITC, to the Project area, and the reasonable inclusion of these transboundary groups as Indigenous nations of Canada, with rights and interests in the Project area that predate the Canada-US border, and as US Tribes with protected rights on the US side of the border. Per parts C3.3 and C3.4 of the Project Order, the EAO should undertake "additional measures for consultation" and should

direct the proponent to undertake additional meaningful consultation with DIA and OVK, as represented by SEITC. All consultations with DIA and OVK, as represented by SEITC, should take into consideration the particular and extraordinarily deep relationship of downstream Tlingit communities to the Project area.

Recommendation 33: Request for the Proponent: Considering that adequate consultation requires provision of adequate time, information, process and capacity, please provide a summary of efforts made to date by the proponent, or planned prior to conclusion of the 180 day period, to support and enable adequate consultation with DIA and OVK, as represented by SEITC, and to ensure that DIA and OVK knowledge, as coordinated through SEITC, is included as Indigenous knowledge within the Application as required under the AIR.

Recommendation 34: Request for the Proponent and the EAO: Our understanding is that, to date, consultation with DIA and OVK, as represented by SEITC, has not been adequate based on available evidence regarding the strength of DIA and OVK rights and interests and the potential consequence of Project impacts to DIA and OVK. DIA, OVK and SEITC appear to have been entirely left out of process planning, development of the AIR, the Assessment Plan, and of the initial application. Please provide a clear plan, developed with SEITC, to correct this situation consistent with the Honour of the Crown. In particular:

- EAO should amend the Application Plan to clearly indicate EAO and proponent responsibilities to DIA and OVK as represented by SEITC, given their status as critical Indigenous nations, separate from other Alaska Tribes, and separate from the Participating Indigenous nations.
- The Application review period should be paused to allow the proponent and the EAO to adequately engage with DIA and OVK, as represented by SEITC, consistent with an amended Application Plan. This should include developing a specific assessment work plan, agreement, or similar document, designed to address, enable and plan for the meaningful engagement of DIA and OVK, as represented by SEITC.
- A pause of the Application review period should be of sufficient duration to allow completion of key baseline DIA and OVK knowledge studies coordinated by SEITC, follow up review of Project documents, and update of VC assessments, including cumulative effects assessments, based on resulting Indigenous knowledge, consistent with the AIR (e.g. sections 6.0, 6.3, 6.4, 7.1, 7.4.4 and others). Ordinarily, this would require at least 9 to 12 months and provision of adequate capacity funding.

Analysis of the Combined Storage Facility, CSF, or Tailings Dump.

“They will also adopt dry-stack tailings for environmental protection” (13.6.2.1 Engagement Activities). There are inconsistencies in the documentation of the CSF.

Backfilling mine voids with tailings. The 40% tailings backfill into mine workings poses a significant risk to groundwater quality after closure. Backfilling with Non-Acid Generating (NAG) material only would lead to less groundwater impacts. The influence of paste backfill on underground water quality is ignored due to lack of suitable data for source term development.¹⁵

Only preliminary investigations have been conducted in the CSF area to determine the stability and permeability of the materials for construction of the CSF. For example, the use of a geotextile cover for the CSF is not consistently included. Moreover, additional information describes how the tailings pile will be constructed so that there will be no acid mine drainage.

Liner Leakage Infiltration from the CSF is discussed at 4.4.1 of Appendix 7.4-4. Liner leakage is modeled as a constant maximum rate of 1 m³ /ha/day, based on similar liner types and construction conditions. This rate represents the estimated water lost to the environment and not captured in the pond system. Any remaining infiltration that does not leak through the liner is collected as toe seepage and routed to the CSF pond. No basis for this modelling input is given.

Synthetic liners prevent most but not all seepage and their lifespan before degrading significantly is apparently about 30 years. There is no assessment of effects after the liner is no longer a functional barrier to ground water resources.

The area of the CSF could experience positive hydrostatic pressure in the underdrain system resulting in vast amounts of contact water overwhelming treatment capabilities. The CSF is close to surface and ground water resources.

Given the seismic status of Alaska this facility must be designed to withstand both static and seismic stress.

Recommendation 35: An analysis of risks must be carried out including failure of the liner, positive hydrostatic water pressure in the underdrains and failure to collect seepage.

Analysis of Air Quality Assessment

Page 34 of Section 7.2, Air Quality: Exceedances of the PM₁₀ level are expected because of operations. Page 43 of that section also predicts exceedances of the nitrogen dioxide standard. The discussion also notes that emissions reductions can be achieved with Tier 3 or Tier 4 generators. Section 7.2 at least implies that only Tier 2 generators will be used even though Tier 4 generators can significantly reduce emissions.

¹⁵ 3.2.4 Appendix 7.4-8

Greenhouse Gas emissions

While British Columbia provides significant benefits for the use of biofuels, emissions from the generators will contribute to greenhouse gas emissions. Diesel generators typically emit 0.7–0.9 kg of CO₂ per kWh,⁴⁶ about 2 times more CO₂ per unit of electricity than the average U.S. grid mix (~0.37 kg CO₂/kWh). Given the fact that Tier 4 generators are more efficient in their use of fuel and have significantly lower emissions of nitrogen oxides, volatile organic carbon compounds, and particulate matter, Tier 4 generators should be required.

Fugitive Dust

Due to the site conditions and increasingly less snow cover, the CSF will produce fugitive dust emissions during dry, windy periods. The nearby Hecla dry-stack facility contributes and estimated 100 tons of dust to the surrounding environment each year. This represents a loss of containment.

AIR fails to account for the effects of settling dust on the land or in the water. The AIR fails to require adequate quantitatively monitoring with ASTM standard equipment.

Recommendation 34: Pathways of exposure due to fugitive dust must be examined and modelled. The risks to values must be identified and mitigations designed. Adequate monitoring must be able to discern the extent of the emissions and the effects they have on the environment.

Analysis of Human Health Assessment.

Section 5.1.1.2 estimates that the soil contaminant of potential concern will be 1,869, 42.3, 1,698, and 1,176 for Arsenic, Cadmium, Lead and Lithium, respectively on the mine footprint during construction. These metals are persistent once released into the environment and can bioaccumulate. The high levels described not only threaten human health but also could contaminate wildlife and water even after closure unless remediated. Even if the area is capped with 50 cm of sand and gravel, animals could penetrate the cover, and the cap could erode over time. Metals like lead and arsenic do not degrade; they persist in the environment so this closure plan is not a durable remedy.

Section 5.4 shows that Indigenous People (Adults) are at risk of noncancer health risks for multiple contaminants. Because this is a screening analysis, the analysis does not reflect the rigor that is expected of a full risk assessment. A full risk assessment should look at issues like bioavailability of lead and other information to better estimate risk.

Ingestion rates for tribes, and probably others living in a remote area, of fish and wildlife will be higher than standard default values for general populations. The text seems to imply that higher ingestion rates are only expected for one tribe, which seems implausible.

Capture and recovery of mercury is not discussed. The gold deposit includes mercury. Mercury is released in every processing step from ore to the final doré bar. The Application does not discuss mercury capture, isolation from the environment or ultimate disposal. Mercury in the watershed would have devastating effects.

Section 7.8 of the Application considers other effects of the Project on Human Health. As noted in this section, the area of the Project is subject to ongoing impacts from COPCs resulting from ongoing acid rock drainage and other impacts from the Tulsequah Chief Mine and other adjacent historic mining activities. The AIR does not consider the effects of creating another border on the T'aakú Héeni, one side of the T'aakú Kwáan is now excluded. The AIR fails to identify the effects of this border (policy?) to the language, culture, knowledge, identity and community cohesiveness of the T'aakú Kwáan.

Risks related to psychosocial effects of contaminants, fear, impacts to sense of place, and cultural impacts are missing from the AIR. Results of the HHRA and mitigations do not seem to have been carried forward or addressed in the assessment as required under the AIR. Please do so and update the application.

Recommendation 35, Request for the Proponent: Given that existing mine contaminant levels in the Project area are already significant from a downstream user perspective, are measurable or perceivable and are resulting in loss of use / avoidance of use for downstream Indigenous communities, how has this been considered in the assessment of Project residual effects and cumulative effects? We note that table 7.8-14 includes a list of current/ongoing and reasonably foreseeable impacts included in the CEA. The current and ongoing impact of historic mining is not included. Only the 'prospective' impacts of future Tulsequah Chief Mine remediation are listed. In addition to the gaps identified above, table also does not include impacts from changing mobilization of sediment released by retreating glaciers, or wildfires. These are major omissions. Please re-model cumulative impacts based on existing already significant impacts, and model future impacts of the environment on the Project, as required in AIR.

Recommendation 36, Request for the Proponent, Section 11.4 of appendix 7.8-1 indicates "The receptor characteristics for Indigenous Peoples adults and toddlers (most sensitive age group) assumed that they are present in the LAA or RAA for 12 hours per day, 7 days per week, 16 weeks throughout the year, for the totality of their lifetime". Tlingit rights in the Project are not restricted to use 12 hours a day or seasonally. The area of the project has been inhabited full time in the past, and is likely to be in the future, especially if Tlingit rights are recognized and respected by BC. Rights based assumption for HHRA exposure should be 365 days a year. Please also provide information on whether Chen's 95th percentile estimates for high consumers were checked against rights-based consumption estimates developed with

DIA or other nearby Indigenous communities. Please indicate if DIA or other nearby communities confirmed that the diet estimates used are reasonable right-based estimations rather than suppressed current maximums.

Recommendation 37, Request for Proponent: Recommendations summarized in section 12 of at 7.8-1 indicate recommended mitigations that include consumption advisories limiting surface water consumption, fish consumption, and berry consumption in the RAA because of elevated COPCs in the Project scenario. Using consumption limits as a mitigation for human health impacts involves direct infringement of Indigenous rights. Please indicate if DIA or other nearby communities confirmed that this approach to mitigation was considered acceptable? Resorting to consumption advisories suggests that without them, the Project would be considered to have significant impacts on human health. They result in a message of "we can avoid impact on human health by telling people to stop eating berries or drinking from streams". Please confirm if this is the case, and if not, why are consumption advisories recommended? Use of consumption advisories generally results in a range of cascading impacts related to psychosocial effects of contaminants, fear, impacts to sense of place, and cultural impacts. Results of the HHRA and mitigations do not seem to have been carried forward or addressed in the assessment as required under the AIR. Please do so and update the application.

Review of the Transportation Plan Effects Assessment

The Application states that trips on the river will avoid spawning and other critical growth periods for aquatic life. However, there is no specific objective criteria identified to be used in making these decisions.

The Taku River flows through a steep and rugged terrain, which results in rapid changes in water levels during periods of heavy rain or snowmelt. The river's channel is highly dynamic, with frequent changes in flow direction and channel width due to erosion and deposition processes. Interactions with landing craft are identified as the primary interaction of the Project with Alaska. This is an underestimation of the way the project interacts with Alaska.

River transport would require extensive permitting, spill response infrastructure, and strict evaluation regarding both environmental impact and marine safety by the State of Alaska and the US Coast Guard.

Recommendation 38: All of the requirements of these permits must be included in the AIR. If the requirement modifies anything in the AIR, those effects must be identified and evaluated for risk.

Vessel traffic will be disruptive and harmful to the fisheries. Juvenile Chinook, coho, and sockeye salmon overwinter in the mainstem of the lower Taku River. Adult sockeye, pink, and chum

salmon spawning occur annually in the mainstem of the lower Taku River. The salmon run from mid-May through early October overlapping with the transportation opportunities. Effects to salmon spawning by vessel traffic cannot be avoided.¹⁶

The Transboundary effects of the transportation plan include landing craft traffic along the T'aakú Héeni overlapping with salmon migration corridors can expect changes to water quality, sediment transport, or habitat conditions in tributaries connected to the T'aakú Héeni mainstem, underwater noise and pressure effects associated with landing craft and in-water works, and potential introduction of aquatic invasive species or pathogens through vessel movement, equipment, or workforce activities, stream bank erosion, grounding, spills and, disruption of mainstream spawning gravels and redds during the egg sensitivity period leading to egg to fry mortality.

None of these effects of the transportation plan are adequately identified or analyzed.

Mitigation measures identified in the AIR include an array of measures and plans, none of which are described in any detail. They include design-based measures to reduce disturbance presented without a design. Minimize landing craft frequency and vessel size and timing trips for the least risky periods of river conditions without specifying the minimum trips to achieve the goals during construction and operation or the consequences if unable to achieve these goals. There is no adaptive management plan, and the Aquatics Effects Monitoring Plan is yet to be designed.

Mitigation measures not identified should include avoiding commercial, sport and subsistence fishermen, continuous surveying of navigation routes to avoid shallow or sensitive habitats, staging spill equipment nearby and implementing timing windows and buffers for avoiding periods of salmon spawning and incubation. Metrics must be specified to measure progress. Proponent must not be allowed to violate the metrics; change it. Pressures of schedules and logistics cannot increase the risk posed by the transportation plan.

The information in the Application is insufficient to justify the conclusion that the No adverse residual transboundary effects are predicted" even when just considering impacts due to the Transportation Plan. It is not clear how long-term barge traffic will impact river water quality and impacts on fish stocks.

Recommendation 39: The Application must evaluate and thoroughly assess all the environmental, social, cultural impacts of the Transportation Plan or specify the conditions necessary to support a conclusion that the environmental, social, cultural values can be protected and effects minimized.

¹⁶ Ed Jones, ADFG presentation to the Taku River Task Force, January 5, 2012.

Assessment of Legacy Site Issues

The proposal would not clean up but perhaps bury surface contamination of metals. Metals do not degrade and can persist in the environment forever so that the contaminated land will be unsafe for use.

Section 1.8 describes the conceptual reclamation and closure plan. At this stage financial assurance will be required. This section specifies that a surety bond will be provided to ensure all reclamation and closure obligations are kept by the Company. A timeframe of 50 years is specified elsewhere in the document, but acid mine drainage will continue thousands of years afterwards. An adequate period of compliance with water quality standards must be established to account for depletion of neutralizing material and long-term monitoring for effects due to climate change, changes in surface water channels, landslides, windthrow and included in the bond.

The Proponent notes that they have initiated engagement with the TRTFN on the development of a Reclamation and Closure Plan that includes a vision statement, draft land use of objectives, design measures, water management and other topics. Such plans are important and they should also include objective metrics to show planned and actual progress.

Page 73 also states that concrete slabs will remain in place and covered with alluvial gravel and stockpiled topsoil. This is another example of failing to restore the land to a condition so that it could safely support life as it did before the mining operations. On this same page, 50 cm of sand and gravel over the entire CSF to encapsulate tailing and waste rock is hardly a durable protective remedy because animals could dig into the material and trees could grow and fall over, exposing contaminated soils.

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Section 1.7.1 describes the management of legacy tailings. The section describes the partial excavation and clean-fill backfilling of material to protect health during construction and operations. Such a process does not address stability issues or leaching from tailings piles. Page

63 also states that mine leachate will be stabilized in-situ by capping with concrete and installing concrete cutoff walls to arrest lateral subsurface movement of leachate. The management of both legacy and new leachate from mining operations needs additional specificity. The accumulation of acid mine drainage in underground workings poses a risk of continual leaching and blowout of caps that have been put in place to contain upper mine waters. The document also notes that the area to be mined is currently submerged and mine water will need to be pumped out for mining. When mining operations are done what is to prevent these areas from again being submerged with water and posing a risk of acid mine drainage or possibly a blowout?

Recommendation 40: The AIR needs to reassess water movement at the site considering on-going acid mine drainage. Closure plans must require the site to be restored to a natural condition instead of a contaminated site.

Assessment of Traditional Uses

There is no clear discussion of the migratory routes of moose and bear, but there is note that the Flanigan Slough and the Taaltsuxei Valley are critical hunting area which may be adversely impacted by mine operations.

The Traditional study seems to imply that based on continual consultation, all cultural impacts can be mitigated. I do not agree with this assumption. Consultation meaningful to us is not happening now. This mine will likely cause long term impacts on hunting, gathering, and gathering throughout the area.

The traditional report notes proposed mitigation activities on Table 11-9. The Proponent concludes that mitigation will be effective and that the area will benefit from increasing job and financial support. The Application does not include a single financial benefit for the Alaska Tribes.

Chapter 13 presents a summary of transboundary effects in the United States and on United States Tribes. Mitigation is noted in section 13.8 which concludes impacts are manageable. The information in the Application does not support this conclusion. The Douglas Indian Association (DIA) is noted as a key US tribal entity which is federally recognized but has been denied deep consultation.

Overall, model projections indicate that the Project will have little to no measurable effect on water quality in the T'aakú Héeni (see Table 17 and Appendix C – Model Results2). Effects to the Taaltsuxéi Héén are projected to be relatively minor if water treatment is in place.

In the closure period when upper case geochemical inputs were used, total and dissolved arsenic concentrations are projected to increase because of groundwater seepage from the

flooded underground to Whitewater Creek, which propagates to the lower Taaltsuxéi Héén. Larger changes to water quality are projected in Whitewater Creek.

These modeling results are based on the assumption that mine waters will be successfully treated.

Chapter 14 is titled Sustainability. No mine is sustainable. Mining is a finite activity. When the recoverable resource has been mined out, the mine will close and be reclaimed and undergo some form of long-term monitoring.

Recommendation 41: The AIR warns that impacts could impact all the Tlingit Nation, so the effect assessment boundaries must include all Tlingit.

Recommendation 42: This degree of impact on surface and GW and on habitat are based on studies by the Proponent, to effectively test many of these conclusions it is recommended that a hydrogeologist review and comment on these reports. It is further recommended that tribal leaders in both Canada and the US meet to fully discuss how traditional hunting, fishing, and gathering impacts have been portrayed in the AIR and if not correct these impacts need to be raised to the proper Canadian officials.

Climate change

The current era of climate change is unprecedented in human history except for the people of the T'aakú Kwáan. This makes accurate predictions impossible.

Temperatures in Juneau have increased as much as 3.6°F during the 20th century, with the largest increase occurring during the winter months. Warming rates were higher in the later part of the 20th century, and Juneau's average wintertime temperature rose by 1.5 - 3°F in the past 60 years. The average winter temperature in the City and Borough of Juneau reached the freezing point of water in the early 1980s. The average winter snowfall at sea level in the City and Borough of Juneau decreased from 109 inches to 93 inches in the past 60 years. The average winter precipitation including rain and snow (reported as inches of liquid water), however, increased by 2.6 inches or more. The increase in precipitation has been marked by heavier, more severe storms and atmospheric rivers. This has led to flooding along local waterways like Jordan Creek and an increased frequency of destructive landslides in the surrounding area.¹⁷

¹⁷ JUNEAU'S CHANGING CLIMATE 2022 available at: <https://juneau.org/wp-content/uploads/2022/12/juneau-climate-report.pdf> and CLIMATE CHANGE: PREDICTED IMPACTS ON JUNEAU April 2007. Available at: <https://juneau.org/wp-content/uploads/2017/07/CBJ- Climate Report Final.pdf>.

Prolonged or intense precipitation can trigger landslides. Less snow is less cover for tailings pile to prevent fugitive dust. There is an increasing trend from 1980 to 2019 in the number of days per year that the Juneau International Airport received more than 0.50 inches of precipitation. Maximum consecutive 3-day precipitation amounts are projected to increase from 2031 to 2060.

Glacier outburst floods (also known as jökulhlaups), occur at the Project site every spring and threaten downstream infrastructure. Because of interannual variability in the magnitude of the floods, it is challenging to assess and prepare for hazards.

The Tongass National Forest is a globally significant carbon sink. How we manage the forests in Southeast Alaska has far-reaching impacts on climate change.

At 7.1.1.4 the description of Regional Climate is a static model and does not address change.

Table 7.1-2 Climate projection within the LAA. Shows an 8% increase in precipitation in the next 75 years. An increase of 5.5 inches per year versus the 2.6 inches increase during the first half of the 20th century. The increase is increasing. Most of the mine structures and the CSF are close to surface waters and ground water as is.

The map appearing on Section 7.11 - Archaeological and Heritage Resources page 10 ends at the border. Heritage resources pre-date the border and exist throughout the entire watershed.

Local assessment area on page 10 shows only a small footprint outside of the actual land disturbance.

Recommendation 43: The AIR requires an evaluation of the effects of flooding, channel movement, landslides and other predicted disturbances to the watershed.

Water Resources

7.4.1.1 Related Valued Component Effects Assessment Chapters Water resources within the Project are governed by the continuous interactions between surface water and groundwater systems. Groundwater and Surface Water are interconnected; they are also connected to other VCs as part of the larger environment

Changes in water quality result in diminished confidence in the safety of fish consuming. Table 7.4-3 Summary of Key Information, Traditional Knowledge, and Concerns for the Project Related to Groundwater.

This analysis has identified several gaps in knowledge necessary to help bridge the relationship between geologic structure, mine development, and ground and surface water resources.

The identification and location of C-Vein samples containing concentrations of arsenic, antimony, cadmium, chromium, nickel, thallium, and uranium at levels more than three times typical concentration found in basalt. ▫ C-Vein rocks have high potential to leach metals, in particular arsenic and antimony due to the presence of arsenic and antimony-bearing sulfide minerals arsenopyrite and stibnite. There needs to be a better understanding of effects.

Uncertainty

Uncertainty in any assessment is to be expected when predicting the outcomes of effects in complex physical, biological, and human systems over large amounts of time. Every effort must be made to identify sources of uncertainty and reduce where possible, through additional study or mitigation measures.

Where uncertainty cannot be reduced, it needs to be described such that it can be considered in decision making. Confidence is one measure of how well potential residual effects are understood and dependent on the quality of the data input. Throughout the EA, lack of understanding of inputs related to physical environment, connection, cumulative effects, and the people of the T'aakú Kwáan does not add to the confidence.

Uncertainty also factors into the determination of how significant (large) an impact may be. The scope of the effects describes all Tlingit people. The AIR fails to examine all the potential effects it identified and does not develop any metrics to do so. By refusing meaningful recognition, consultation and participation of the Alaska Tribes, the application makes no attempt to identify or reduce many uncertainties.

Yet the EA makes a conclusion of no effects to the Tlingit people across all environmental, economic, social, cultural and human health metrics for all of time with an unsupported absolute precision of 'no'.

Recommendation 44: Again, we recommend that the proponent withdraw this application until such time as the gaps in the information requirements are reasonably filled, meaningful consultation with affected Alaska Tribal governments occurs and risks can be identified and mitigated with increased confidence.

Thank you,

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