**Admiralty Island National Monument**

**Tongass National Forest**

**ATTN: Greens Creek Tailings Expansion**

**8510 Mendenhall Loop Road**

**Juneau, AK 99801**

**By email: comments-alaska-tongass-admiralty-national-monument@fs.fed.us**

**May 23, 2023**

**Re: Letter of Appeal to DEIS “Greens Creek Tailings Expansion”**

This is a letter of appeal regarding the Draft Environmental Impact Statement (DEIS) for the Greens Creek Tailings Expansion. My name is Daniel Monteith, 3828 North Douglas Hwy, Alaska 99801. A summary of my credentials and expertise is as follows:

Ph.D. Anthropology, Michigan State University 1998

M.A. Anthropology, Michigan State University 1990

M.A. Social Science, University of Chicago 1986

B.A. Anthropology, University of Chicago 1985

I have over 30 years of experience in Southeast Alaska doing anthropological work and have authored numerous professional papers, reports, and publications on a wide variety of topics in anthropology and archaeology.

I will address concerns on this DSEIS only in my area of expertise. The methods and conclusions in cultural resource, social and economic, subsistence, and social justice are based on inadequate research and thus the conclusions are inaccurate. The letter of appeal will be organized by subject areas and concise bullet statements discussing the problems with the document will be addressed. Some issues will be consistent throughout all four areas. These shortcomings in this planning document need to be addressed in order for the concerned Federal Agencies to continue with proposed actions. The specific federal laws that support the focus of my appeal are:

Clean Water Act (CWA); Clean Air Act (CAA); General Mining Law of 1872; Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA); National Historic Preservation Act (NHPA); National Environmental Policy Act (NEPA); Migratory Bird Treaty Act (MBTA); Fish and Wildlife Coordination Act; Bald and Golden Eagle Protection Act; Marine Mammal Protection Act (MMPA); Endangered Species Act (ESA); Alaska National Interest Lands Conservation Act (ANILCA); Greens Creek Land Exchange Act; Wilderness Act of 1964; Federal Executive Order 131175; Federal Executive Order 12898. Until the issues stated in this letter of appeal are addressed the Federal Agencies involved are not in compliance.

**Subsistence**

The current DSEIS is based on research that is inadequate and incomplete. The work done by the outside consulting firm Stephen R. Braund & Associates was insufficient and inaccurate.

The following statement about Hawk Inlet is inaccurate and misrepresents the significance of subsistence:

the communities of Angoon, Hoonah, and Tenakee Springs have no or very occasional documented use of the  
Hawk Inlet area for subsistence purposes. Subsistence users’ access to the study area would  
not be expected to be affected under this alternative

That above statement in the DSEIS sets the tone and demonstrates the lack of accountability on the part of the Forest Service with respect to their mandate as a federal agency on Admiralty Island to protect the “subsistence priority,” over other user groups and activities on the Tongass National Forest. The “subsistence priority,” is a clear intention of Congress in ANILCA.

* The Hawk Inlet area is a customary and traditional and contemporary use area for some clans and residents of Angoon, Hoonah, and Juneau. Significant individuals and groups were left out the study and thus the conclusions in the draft EIS are inaccurate. The study relies too heavily on outdated Alaska Department of Fish and Game Reports and other studies that were not designed or conducted for the purposes of the report. Further in depth ethnographic interviews and community surveys, interviews, and studies should be conducted. Key traditional family, clan, and tribal entities were left out of the study. These methodological inadequacies have led to numerous inaccurate assumptions in the DSEIS.
* Because of the complex overlap of Tlingit clan subsistence areas the kwaans and clans of Angoon, Hoonah, and Juneau. Federal Executive Order 13175 and 12898 both mandate that consultation with the Federal recognized tribes occurs. With the inaccurate statements in the EIS it is clear that the United States Forest Service has not conducted government to government consultation with the Angoon Community Association (ACA), the Hoonah Indian Association, the Douglas Indian Association, or Central Council for Tlingit and Haida Tribes of Alaska. I have heard from first hand accounts that the District Ranger had consultation visits with the ACA. The issue was there were other stakeholders, Hecla representatives, and State agency officials in attendance. Respectful tribal consultation requires a government to government relationship without outsiders present.
* This area is a significant contact area between lineages and clans of the Angoon, Hoonah, and Juneau Tlingit and a historical canoe portage. Today, the Hawk Inlet area is a productive subsistence resource area that many individuals from multiple communities use to harvest resources. This was not adequately addressed in the DSEIS.
* The DSEIS is the time to evaluate current scientific testing and data collection that can inform the public and subsistence users on the safety of subsistence resources, hunted, fished, and gathered in Hawk Inlet. ANILCA, clearly states that there should be a subsistence priority over other user groups and development activities. The Forest Service and Hecla states that they are fulfilling their regulatory obligations by conducting water quality surveys for thirty years. The problem is water quality studies are not necessarily gone to tell us if there are issues with fugitive dusts. While Hecla has recently attempted to conduct studies about the impacts of fugitive dust on the eco-system, other studies indicate that the contracted Hecla studies are not testing in important areas and utilizing limited methods for testing the impacts of fugitive dust. The Friends of Admiralty Study, Guy Archibald, “Evaluation of Stable Isotope Ratios and Lead Concentrations in Clam Shells Over Time in Hawk Inlet,” stated: “the goal of this project was to identify the source of the of lead (Pb) in the marine environment at Hawk Inlet, Alaska and to distinguish between possible naturogenic (natural) and anthropogenic (human-caused) sources (2023:4).”
* The Conclusion of the Archibald 2023 Report reads:

For three decades, the observed increase of Pb in the marine environment of Hawk Inlet has been assumed to be due to natural occurrences, specifically erosion of the mineralized rock in the area. The original pre-production baseline studies cataloguing species diversity and populations and metal bioaccumulation in upper trophic organisms were designed to measure long-term effects of the mine on Hawk Inlet biota. Surprisingly, these baseline studies have never been repeated, so long-term effects of the mine’s operation throughout the food chain in Admiralty Island National Monument remain unmeasured. The current monitoring program assumes indirectly that if

tissue levels in bottom trophic level organisms and sediments remain under NOAA SQuiRT screening levels, then higher trophic levels are also protected. It also assumes that because Pb levels seem to be increasing at all monitoring stations, then it must be from a natural source even though one of the two sites (Site 3) used for comparison is known to be contaminated from human activity; possibly from fugitive dust.

Trends over long periods of time on metal concentrations such as Pb in the marine environment can be provided by the analysis of clamshells in regions experiencing isostatic uplift. This study shows that Pb in Hawk Inlet and in the natural area in Young Bay remained similar and consistent across centuries prior to mine activities, and only recently rose to the current observed levels. Levels of Pb in Hawk Inlet are now 45.7% higher than in Young Bay, an area underlaid by the same geology and undergoing the same rate of erosion. The isotope ratios indicate the source of Pb in Hawk Inlet during the current production era is more closely related to the tailings than the source of Pb in the pre-production eras in both Hawk Inlet and Young Bay. Overall, the isotopes of Pb were similar in both Hawk Inlet and Young Bay, indicating the same natural mineralization occurs at both sites. Given the geological similarities of both Hawk Inlet and Young Bay, natural erosion of mineralized rock cannot explain the recent 50% increase in Pb concentrations in Hawk Inlet versus Young Bay. An examination of other possible sources of Pb in Hawk Inlet fails to account for the increase. Furthermore, there is no reason to believe that natural erosion rates are higher now than they were in the past few centuries. Natural Pb contributions from erosion should show a consistent trend from the past to the present. However, this does not match any of the observations.

Given that the analysis and comparison of the stable isotopes of Pb indicate the Pb observed in contemporary living organisms is a closer match to the tailings from the mine than with organisms that lived prior to mine activities or outside of Hawk Inlet, and given that fugitive dust is cited as a source of contamination on the uplands, it is clear the increased Pb concentrations in Hawk Inlet are also anthropogenic in nature. Given all the available data, the most likely source is fugitive dust blowing from the tailing storage facility as predicted in the 2013 Record of Decision and Environmental Impact Study [35]. This conclusion aligns with the heuristic known as Occam’s Razor; that one explanation is most likely more accurate than two explanations for

the same observed phenomena.

This study would benefit from more data from identified raised beaches and samples of the tailings. Clearly, fugitive dust monitoring should extend out from the TDF and include the Greens Creek delta given the high probability that the delta acts to absorb and expose Hawk Inlet to Pb from the dust. The long-term effects on flora and fauna in both the marine and terrestrial environments could easily be measured by repeating the original baseline studies of species diversity and populations within the intertidal areas in Hawk Inlet, and analyzing metal loading in upper-level trophic terrestrial organisms. The identification of Admiralty Island as worthy of National Monument status compels land managers to protect this unique ecosystem, including the productivity and health of its connected marine environment (Archibald 2023:28-29).”

This report, while the data set is limited, it clearly raises cautionary flags, and merits further study and consideration. As a scientist and a PhD. I was skeptical but also very concerned about the public health risks to subsistence harvesters with respect to the conclusions in the Archibald (2023) study. Therefore, I had the following scientist review this report: an agency PhD, Soil Scientist, specializing in Geomorphology; an academic PhD., Geologist, specializing in Environmental Geochemistry, research examining trace metals in water and sediments; and a Industrial Hygiene chemist, specializing in Public Health and Industrial Hygiene. Each one found the study legitimate, limited in data, but that it had merit and should raise cautionary flags.

**Socio-Economic**

* The above mentioned issue applies to this section: The Hawk Inlet area is a customary and traditional and contemporary use area for some clans and residents of Angoon, Hoonah, and Juneau. Significant individuals and groups were left out the study and thus the conclusions in the draft EIS are inaccurate. The study relies too heavily on outdated Alaska Department of Fish and Game Reports and other studies that were not designed or conducted for the purposes of the report. Further in depth ethnographic interviews and community surveys, interviews, and studies should be conducted. Key traditional family, clan, and tribal entities were left out of the study. These methodological inadequacies have led to numerous inaccurate assumptions in the DEIS.
* Adequate and purposeful social and economic surveys of Angoon, Hoonah, and Juneau designed to address the issues of the DEIS were not developed. Instead, a literature search of basic socio-economic and demographic data were cut and pasted into this report. Little social science analysis of the data and its impacts to the above mentioned communities is presented.
* It would be very helpful to me, trying to be an informed citizen on this DEIS to have a detailed cost benefit analysis of the different alternatives; including the cost and benefits of the company/companies involved and a detailed cost benefit analysis to the ecosystem services for the project area and communities concerned.
* There is little or no discussion about the impacts to the commercial fishing, subsistence fishing and gathering, and/or sports fisheries. This is a major migration corridor for anadromous fish in the region.
* There is little or no discussion as to the impact of shellfish in the area due to known toxic elements produced in the mining operations.
* There is a great deal of new research and methods in “ecosystem services” that would enhance this DEIS and study and assist the citizenry, Stakeholders, and federal agencies on the selection of alternatives that is not included in this study.
* The recent studies conducted by Michelle Ridgeway and Friends of Admiralty raise flags of caution about increasing levels of lead and other metals in the food chain and eco-system. Lead concentrations in food sources at even small levels can be concerning from a health. The DSEIS, socio-economic section, does not examine the health and social and economic impacts of lead or other heavy metals in food sources.

**Cultural Resources**

* The above mentioned issue applies to this section: The Hawk Inlet area is a customary and traditional and contemporary use area for some clans and residents of Angoon, Hoonah, and Juneau. Significant individuals and groups were left out the study and thus the conclusions in the draft EIS are inaccurate. The study relies too heavily on outdated Alaska Department of Fish and Game Reports and other studies that were not designed or conducted for the purposes of the report. Further in depth ethnographic interviews and community surveys, interviews, and studies should be conducted. Key traditional family, clan, and tribal entities were left out of the study. These methodological inadequacies have led to numerous inaccurate assumptions in the DEIS.
* With respect to archaeological resources the DEIS includes an inadequate literature search. There is no discussion of current and specific archaeological methods or field work. I realize archaeological resources are exempt from the Freedom of Information Act but in consultation with Forest Service archaeologists these concerns were not adequately addressed by Stephen R. Braund & Associates. The original archaeological survey conducted by Carlson were flawed, inadequate, and questioned by Madonna Moss. Current archaeological work conducted by Forest Service archaeologists were not included or taken into consideration in this document.
* Recent geoarchaeological work in Southeast Alaska also calls into question the current archaeological model used by the Forest Service used for determining high, medium, and low probability archaeological areas and what methods can be used in consultation with the State Historic Preservation Office (SHPO). The current modeling is highly problematic for northern Southeast Alaska. This is based on research conducted by both Forest Service and academic geologists and archaeologists. The key issue is the dramatic rate of uplift, glacial rebound, isostactic rebound has significantly altered the landscape and plain and simple archaeologists need to account for these factors in their models and survey techniques (see Motyka et al; Connor et al; Carlson and Baichtal 2010).
* In the older archaeological reports, EIS, and the current DEIS these issues have never been mentioned. These concerns need to be addressed otherwise the federal agencies involved are not following proper Section 106 processes according to the National Historic Preservation Act.
* This area is a significant historical canoe portage and contact area between lineages and clans of the Angoon, Hoonah, and Juneau Tlingit. This was not adequately addressed in the DEIS.
* When one examines current paleo-shoreline models and understands the significance of the area careful archaeological surveys should be conducted. This area may yield regionally, nationally, and internationally significant research regarding the peopling and migrations of the Alaska Native peoples.

**Social Justice**

* The above mentioned issue applies also to Social Justice issues: The Hawk Inlet area is a customary and traditional and contemporary use area for some clans and residents of Angoon, Hoonah, and Juneau. Significant individuals and groups were left out the study and thus the conclusions in the draft EIS are inaccurate. The study relies too heavily on outdated Alaska Department of Fish and Game Reports and other studies that were not designed or conducted for the purposes of the report. Further in depth ethnographic interviews and community surveys, interviews, and studies should be conducted. Key traditional family, clan, and tribal entities were left out of the study. These methodological inadequacies have led to numerous inaccurate assumptions in the DEIS.

**Recommendations**

As previously stated the DEIS would benefit from more ethnographic interviews and community survey, more consideration given to the significance of Paleo-shoreline modeling, and more inclusive work with Alaska Native entities in Angoon, Hoonah and Juneau. Finally, without a cost-benefit analysis of company and eco-system services I do not think one can evaluate to true costs to any of the alternatives. The DEIS falls way short in evaluate impacts to subsistence, socio-economics, cultural resources, and social justice. Most importantly in light of the report by Archibald 2023 further studies and a new testing regime should be implemented in this phase of the DSEIS. That is how the NEPA process was intended and should work. I look forward to how the DEIS team will address these deficiencies and issues.

Sincerely,

Daniel Monteith

PhD. Anthropology

**References Cited**

Archibald, Guy. “Evaluation of Stable Isotope Ratios and Lead Concentrations in Clams Shells Over Time in Hawk Inlet.” Friends of Admiralty Report. 2023. Pp. 1-34.

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