UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, AK 99802-1668

May 3, 2023

Francis Sherman
Acting Forest Supervisor
Tongass National Forest
Federal Building
648 Mission Street, Suite 110
Ketchikan, Alaska 99901

Re: Draft Supplemental Environmental Impact Statement for the Greens Creek Mine North Extension Project; NMFS ECO Reference No. AKRO-2023-00364

Dear Mr. Sherman:

The National Marine Fisheries Service has reviewed the draft Supplemental Environmental Impact Statement (DSEIS) for the Greens Creek Mine North Expansion project provided on March 27, 2023. The purpose of this project is to extend the lifetime of the mine for 12 to 18 more years by increasing the storage capacity of the tailings disposal facility (TDF). The proposed scope of work includes:

- Expanding the Greens Creek Mine TDF to accommodate, at minimum, approximately 4 to 5 million cubic yards (CY) of additional tailings and waste rock;
- Relocating the existing B-Road, including construction of a new crossing for Cannery Creek;
- Raising the embankment of Pond 7/10 to meet water storage and management requirements;
- Installing a sump system to capture runoff from the northern end of the TDF;
- Relocation of the existing freshwater collection system at Cannery Creek;
- Placement of approximately 89,000 CY of peat and underlying excavated soil from the tailings stack extension area;
- Required mitigation and monitoring.

Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Fish and Wildlife Coordination Act require Federal agencies to consult with us on all actions that may adversely affect essential fish habitat (EFH) and other aquatic resources. The EFH consultation process is guided by the regulation at 50 CFR 600 Subpart K, which mandates the preparation of EFH assessments and outlines each agency's obligations. In support of this consultation process, you provided a notice of the proposed action and your agency's conclusion regarding impacts to EFH. We offer the following comments and recommendations on this project.

Essential Fish Habitat

For the five species of Pacific salmon, EFH is defined for both their freshwater anadromous and marine life history stages. Freshwater habitat for Pacific salmon includes all streams, lakes, ponds, wetlands, and other water bodies currently or historically accessible to salmon in Alaska (NPFMC 2018). Pacific salmon EFH includes Greens Creek and its tributaries. According to the Anadromous Waters Catalog, chum, coho, and pink salmon were observed in Greens Creek and four additional streams north of Greens Creek with connections to Hawk Inlet (Giefer and Graziano 2022). Hawk Inlet is identified as EFH for Pacific salmon during their marine life history stages. Early juvenile salmon associate with the intertidal and nearshore environment (NPFMC 2018), so concerns of water and sediment quality for salmon extends beyond their freshwater life history stages.

Hawk Inlet and Icy Strait are identified as EFH for 12 Gulf of Alaska groundfishes throughout their life history, including Pacific cod, walleye pollock, and sablefish (NPFMC 2020). For some species, including Pacific cod, the egg stage is benthic and directly interacts with sediments or benthic structures. Therefore, contaminants in Hawk Inlet sediments could adversely impact the growth and development of groundfish species with eggs that sink to the bottom. For example, a study in Norway showed mine tailings waste exposed to Atlantic cod (*Gadus morhua*) increased mortality in larvae and suggested possible chronic toxicity with long-term effects (Reinardy et al. 2019).

Assessment of Effects to EFH

Your agency has concluded that the proposed project activities outlined in all project alternatives (Alternatives A through D) would have adverse impacts to EFH in the project area. Federal regulations define an adverse effect as "any impact that reduces the quality and/or quantity of EFH" (50 CFR 600.810(a)). Based on our review of Section 3.7 of the DSEIS, we agree the described activities may adversely affect EFH and aquatic resources within the project area. We note that the DSEIS describes continued *status quo* operations under Alternative A (no action) also risk fugitive dust transmission and the unintentional release of untreated water from Pond 7/10.

EFH Conservation Recommendations

Implementing the appropriate mitigation measures can avoid or minimize direct and indirect project related impacts associated with current and proposed tailings storage at Greens Creek Mine. In accordance with Section 305(b)(4)(A) of the MSA, we offer the following conservation recommendations to avoid, minimize, mitigate, or otherwise offset effects:

1. **Fugitive Dust Sampling:** There are several mitigation measures in place to limit the dispersion of fugitive dust and we are aware of some sampling protocols to monitor for fugitive dust adjacent to the dry stack pile. However, the DSEIS also notes that: "Currently, Tributary Creek has been designated a category 4b waterbody due to continued high levels of lead found during annual water quality monitoring." Prior to expansion, the project should clearly outline fugitive dust mitigation measures, a monitoring plan, and compensation for impacts from heavy metal contamination in the anadromous streams and downstream marine environment in the final SEIS.

2. **Pond 7/10 Embankment Height:** Pond 7 includes a Class 2 dam and the project needs to consider dam failure risk for the pond as is and after potentially raising the embankment height. Consideration for dam failure also needs to include the increased predicted precipitation in southeast Alaska due to climate change (see Lader et al. 2020).

3. **Pond 7/10 Liner:** During a site visit in 2021, we observed tree growth within Pond 7. Root growth through the pond liner would be a source of untreated water contamination into the groundwater. A plan to limit tree and plant growth within Pond 7/10 and monitor for ruptures should be included in the final SEIS.

4. **Cannery Creek Water Collection:** Use appropriate screened intake for water withdrawals at the new location planned for water collection. Appropriate screening prevents suction entrapment and entrainment injury to small and juvenile fish present in the area of the withdrawal.

5. **Cannery Creek Crossing:** The DSEIS noted, "The Forest Service conducted a Project stream culvert assessment in 2021 and determined that several fish stream crossing culverts on the B-Road do not meet current fish passage standards." Mitigation measures for fish passage were included in the plan and the new Cannery Creek crossing proposed should be included in fish passage standards for design and long-term monitoring (USFWS 2019).

6. **Hawk Inlet Considerations:** Develop and clearly describe a comprehensive monitoring plan for water quality, sediments, and macroinvertebrates in Hawk Inlet in consultation with resource agencies. This plan should remain in effect for the life of the proposed mine expansion and have annual reporting requirements to the resource agencies. We are aware of agency sampling and environmental organizations conducting sampling studies (e.g., Archibald 2022), but the final SEIS should include a clear and outlined monitoring plan that will be conducted and reported by the mining operation.

7. **Peat Storage:** Minimize the amount of vegetation clearing and peat removal anticipated in the NEP. Peat is wetland habitat, and can help filter water. Removing peat could create unanticipated water quality problems as that peat may already be binding up metals. Once the peat is moved, it will not serve the same ecological function for the watershed.

Additional information related to these recommendations can be found in Impacts to Essential Fish Habitat from Non-Fishing Activities in Alaska (Limpinsel et al. 2017). Other useful resources include the Nearshore Fish Atlas of Alaska (NMFS 2021), the Alaska EFH Mapper, and our Regional website, where you can find FAQs.

A written response to our comments is required within 30 days pursuant to Section 305(b)(4)(B) of the MSA. If your response is inconsistent with our recommendations, explain the reasons for not following our recommendations, including the scientific justification for any disagreements over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects (50 CFR 600.920(k)). If you will not make a decision within 30 days, provide a letter to that effect and indicate when a full response will be provided. Significant

changes to the project may require reinitiating consultation. Molly Zaleski (molly.zaleski@noaa.gov) is available to answer questions or discuss further actions.

Sincerely,

Jonathan M. Kurland
Regional Administrator

cc:
Public comment to fs.greenscreek@usda.gov
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Sheila Jacobson, USFS, sheila.jacobson@usda.gov

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