



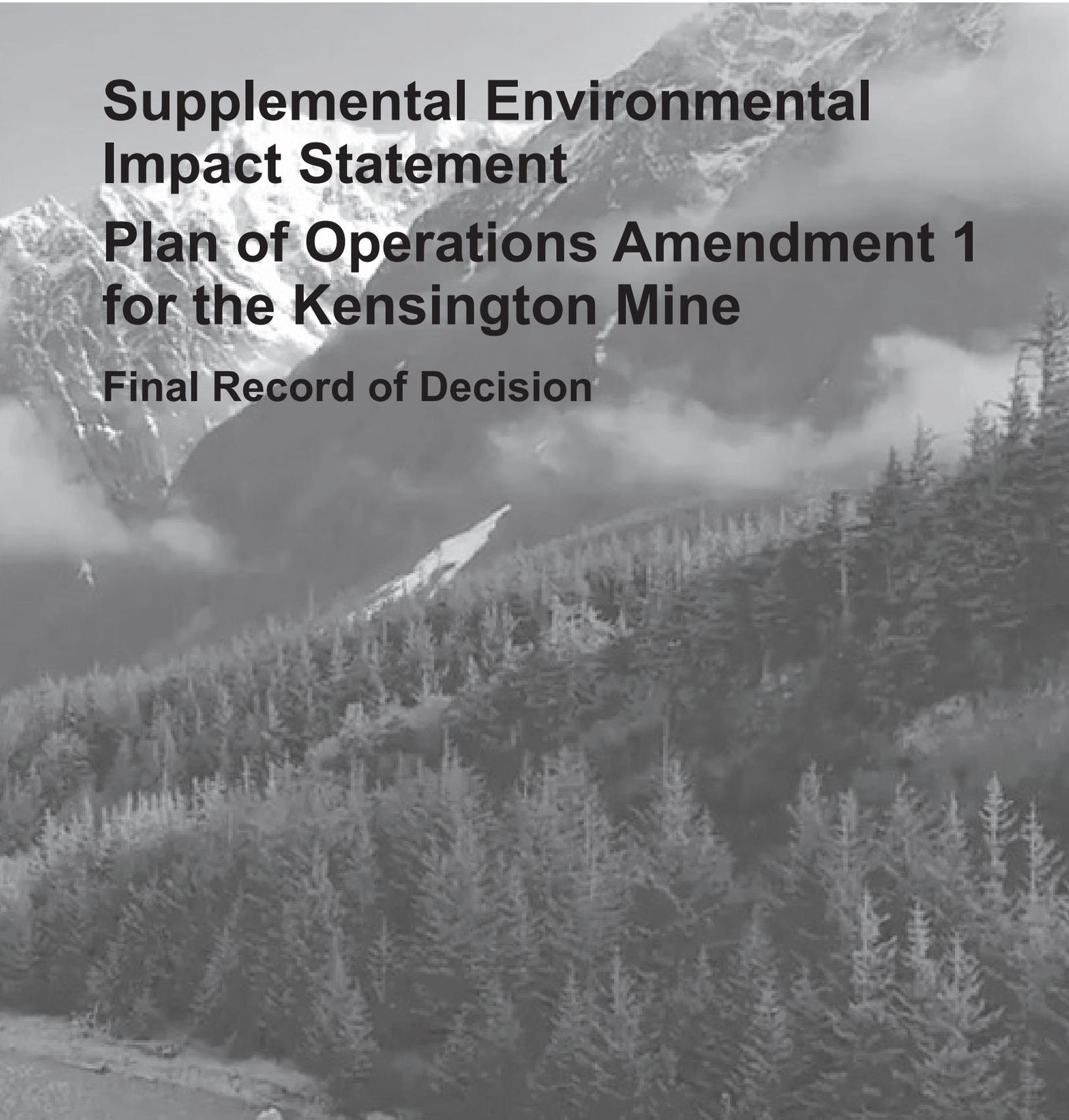
Forest Service
U.S. DEPARTMENT OF AGRICULTURE



US Army Corps
of Engineers®



Tongass National Forest | R10-MB-500f | February 2022



Supplemental Environmental Impact Statement

Plan of Operations Amendment 1 for the Kensington Mine

Final Record of Decision

Cover Photo: Lynn Canal along the shoreline near Comet Beach

Acronyms and Abbreviations

ADEC	Alaska Department of Environmental Conservation	FSEIS	Final Supplemental Environmental Impact Statement
ADF&G	Alaska Department of Fish and Game	FWMP	Freshwater Monitoring Plan
ADNR	Alaska Department of Natural Resources	IERB	Independent Engineering Review Board
APDES	Alaska Pollutant Discharge Elimination System	IRA	Inventoried Roadless Area
AOP	Aquatic Organism Passage	LUD	Land Use Designation
BMP	best management practice	NEPA	National Environmental Policy Act (United States Code 421 et seq.)
CEQ	Council on Environmental Quality	NFS	National Forest System
CFR	Code of Federal Regulations	NOAA Fisheries	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
DPS	Distinct Population Segment	POA 1	Plan of Operations Amendment 1
DSEIS	Draft Supplemental Environmental Impact Statement	ROD	Record of Decision
EFH	Essential Fish Habitat	SEIS	Supplemental Environmental Impact Statement
EIS	Environmental Impact Statement	SHPO	State Historic Preservation Officer
EPA	U.S. Environmental Protection Agency	TTF	Tailings Treatment Facility
ESA	Endangered Species Act	USACE	U.S. Army Corps of Engineers
ESU	Evolutionarily Significant Unit	WOTUS	Waters of the United States
FR	<i>Federal Register</i>	WRS	Waste Rock Storage



File Code: 1950; 2810
Date: February 24, 2022

Dear Planning Participant:

I am pleased to announce that the Record of Decision (ROD) for the Kensington Mine Plan of Operations Amendment 1 project on the Tongass National Forest has been signed. The ROD and Errata to the Final Supplemental Environmental Impact Statement (SEIS) is available for review at the Juneau Ranger District and the Ketchikan Forest Supervisors office and online at:

<https://www.fs.usda.gov/project/?project=55533>

This ROD documents my decision to select the Proposed Action Alternative, here after referred to as the Selected Alternative, and describes my rationale for the Decision. This decision authorizes Coeur Alaska, the project applicant, to construct and operate the Kensington Mine, and includes amendments to the approved 2005 Plan Operations to extend the life of the mine for a minimum of 10 years. In addition to the already approved operations, the Selected Alternative will extend the mine life a minimum of 10 years or to approximately 2033.

The final SEIS and draft ROD were available for public review prior to this final decision, pursuant to the pre-decisional administrative review process (objection process) under 36 CFR 218, subparts A and B, and four objections with standing were received during the 45-day objection filing period. The Reviewing Officer reviewed the draft decision in accordance with 36 CFR 218.3(a) and provided instructions. I have complied with the instructions from the Reviewing Officer prior to signing the ROD. Project implementation may commence once all other associated Federal and State permits have been received.

Copies of this letter have been directly mailed or emailed to those who have expressed interest in the project through scoping, comments, consultation, or requests to be on the mailing list.

For additional information, please contact Matthew Reece, Tongass Minerals Program Manager, at (907)-789-6274 or email at matthew.a.reece@usda.gov

As the Forest Supervisor, I am responsible for this decision. Your interest in the Kensington Mine Plan of Operations Amendment 1 project and management of the Tongass National Forest is appreciated.

Sincerely,

M. EARL STEWART
Forest Supervisor, Tongass NF



We make every effort to create documents that are accessible to individuals of all abilities; however, limitations with our word processing programs may prevent some parts of this document from being readable by computer-assisted reading devices. If you need assistance with any part of this document, please contact the Tongass National Forest at 907-228-4100.

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Supplemental Environmental Impact Statement Plan of Operations Amendment 1 for the Kensington Mine

Final Record of Decision

United States Department of Agriculture
Forest Service Alaska Region

Lead Agency:

USDA Forest Service
Tongass National Forest

Cooperating Agencies

U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
Alaska Department of Natural Resources
City and Borough of Juneau

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Abstract:

The Responsible Official has selected the Proposed Action Alternative from the Plan of Operations Amendment 1 for the Kensington Mine Final Supplemental Environmental Impact Statement (FSEIS). This decision authorizes the project applicant to construct a new Stage 4 tailings dam, expand waste rock storage at Comet, Kensington, and Pit #4, and build a new waste rock storage facility along Pipeline Road as described in Chapter 2 of the FSEIS. This approval will be phased as discussed further in this decision.

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Table of Contents

Introduction	1
Background	3
Decision	4
Selected Alternative.....	4
Rationale for the Decision	5
How the Selected Alternative Meets the Purpose and Need	7
How Issues were Considered and Addressed	8
Impacts on the Aquatic Environment.....	8
Other Factors Considered.....	9
Alternatives.....	11
Alternatives Considered but Eliminated from Detailed Study	13
Environmentally Preferable Alternative	14
Public Involvement	14
Mitigation	14
Monitoring	17
Other Findings Required by Law and Regulation	18
Alaska National Interest Lands Conservation Act of 1980	18
Subsistence Evaluation and Findings (Section 810)	18
Bald and Golden Eagle Protection Act of 1940 (as amended)	18
Clean Air Act of 1970 (as amended).....	18
Clean Water Act of 1977 (as amended).....	19
Endangered Species Act of 1973 (as amended).....	19
Magnuson-Stevens Fishery Conservation and Management Act of 1996	20
Marine Mammal Protection Act of 1972	20
National Forest Management Act of 1976 (as amended).....	21
2016 Tongass National Forest Land and Resource Management Plan.....	21
National Historic Preservation Act of 1966 (as amended).....	21
Roadless Area Conservation Rules	21
Executive Orders.....	22
Executive Order 11593 (Cultural Resources).....	22
Executive Order 11988 (Floodplains).....	22
Executive Order 13690 (Flood Risk Management).....	22
Executive Order 11990 (Wetlands)	23
Executive Order 12898 (Environmental Justice)	23
Executive Order 12962 (Aquatic Systems and Recreational Fisheries).....	23
Executive Order 13007 (Indian Sacred Sites)	23
Executive Order 13112 (Invasive Species)	23
Executive Order 13175 (Consultation and Coordination with Tribal Governments)	23
Executive Order 13186 (Migratory Birds)	24
Executive Order 13443 (Hunting Heritage and Wildlife Conservation)	24
Federal and State Permits	24
Administrative Review – Opportunity to Object	24
Implementation.....	25
Contact Information	25

Responsible Official 26
References 27

List of Figures

Figure 1. Kensington Mine Vicinity Map 2

List of Tables

Table R-1. Summary of Unavoidable Impacts to Wetlands and Streams under the Selected Alternative by Project Component and Aquatic Resource 16

List of Exhibits

Exhibit R-1. Reponse to Objection

List of Attachments

Attachment A. Required Mitigation, Conservation, and Monitoring Measures

Supplemental Environmental Impact Statement Plan of Operations Amendment 1 for the Kensington Mine

Final Record of Decision

Introduction

This Final Record of Decision (ROD) documents my Selected Alternative from the Plan of Operations Amendment 1 for the Kensington Mine Final Supplemental Environmental Impact Statement (FSEIS) and the rationale for my decision. It contains a summary of the environmental analysis; the findings required by law; and explains the results of the pre-decisional administrative review of the project conducted under Title 36 Code of Federal Regulations [CFR] 218, Subparts A and B.

The FSEIS analyzes the potential impacts of authorizing the construction, continued operation, and maintenance of the proposed Plan of Operations Amendment 1 (POA 1)¹ (NewFields, 2018), from Coeur Alaska, Inc., the owner/operator of the Kensington Mine, to amend their 2005 Plan of Operations (Coeur Alaska, 2005). The project is in southeastern Alaska on the peninsula formed between Lynn Canal and Berners Bay on National Forest System (NFS) and non-NFS lands. The mine is about 45 air miles northwest of Juneau, Alaska (see Figure 1).

The project will expand the disturbance area analyzed in the 2004 Kensington Gold Project FSEIS (Forest Service, 2004a) and approved by the Forest Service under the 2004 ROD (Forest Service, 2004b). The FSEIS on the POA 1 for the Kensington Mine considers and discloses all direct, indirect, and cumulative impacts, regardless of land ownership or jurisdiction, however, my decision addresses only those project components subject to my authority over NFS lands.

Other federal and state agencies and the City and Borough of Juneau have authority to issue specific permits on NFS lands and elsewhere. In particular, the U.S. Army Corps of Engineers (USACE) has yet to exercise their permitting authority over this project and will issue a separate ROD based on this FSEIS. The State of Alaska will also rely on much of this analysis to approve activities and applicable permits. Implementation of my decision to select the Proposed Action Alternative is subject to the completion of those necessary permit processes by the other federal, state, and local authorities.

¹ POA 1 refers to the amendment application. POA 1 is the basis for the Proposed Action. To avoid confusion, throughout the SEIS, POA 1 (NewFields, 2018) refers to the document and Proposed Action refers to the alternative that includes the activities in POA 1.

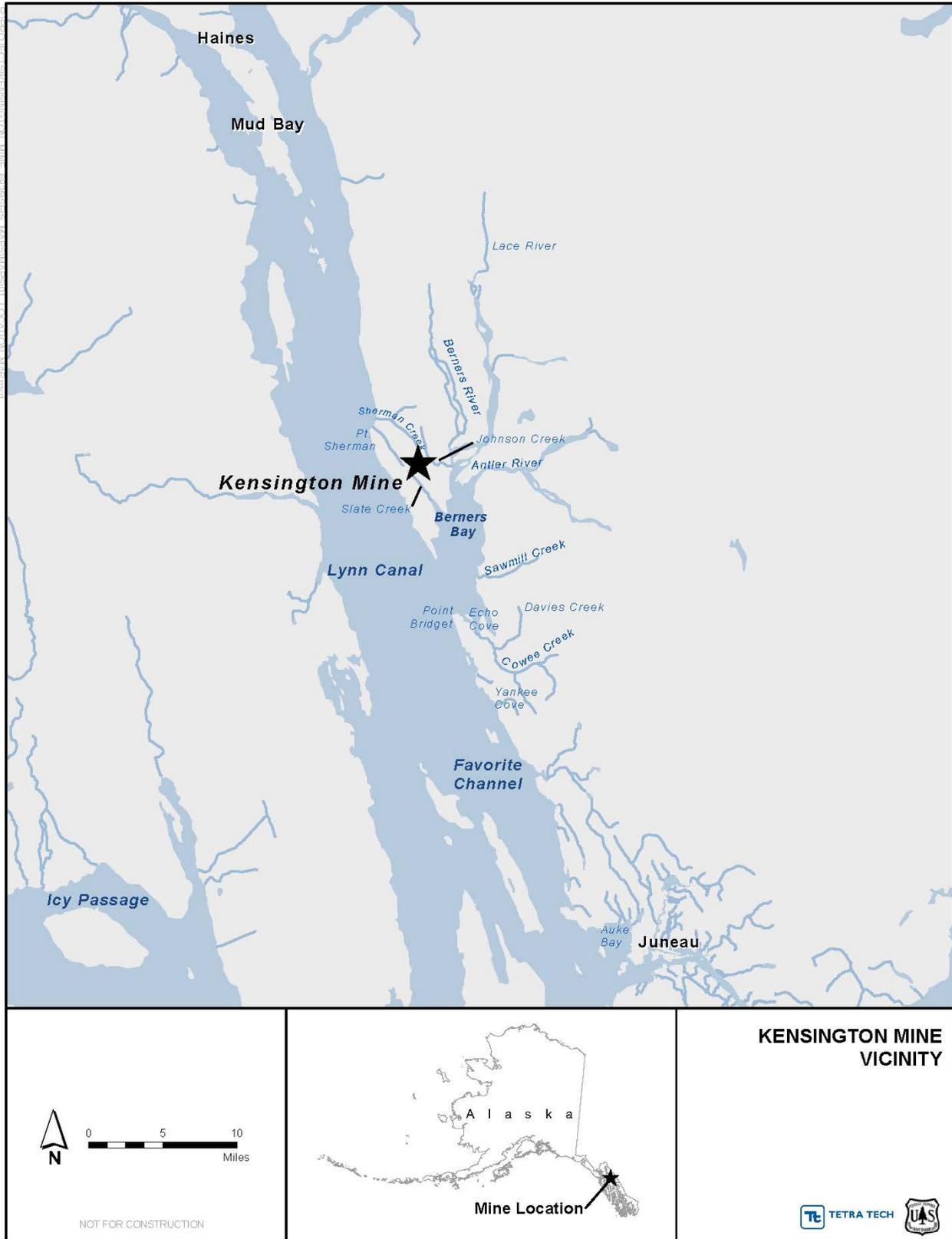


Figure 1. Kensington Mine Vicinity Map

Background

Coeur Alaska has continually operated the Kensington Mine since 2010. The approved 2005 Plan of Operations allows for sufficient waste rock (rock removed during mining that does not contain ore) storage through 2023. Additional waste rock and tailings storage will be needed to continue operation.

Kensington Mine development has been subject to review under the National Environmental Policy Act (NEPA) since 1992 including:

- 1992 Final Environmental Impact Statement (EIS) and ROD (Forest Service, 1992):
The 1992 decision selected Alternative F, which included underground mining, ore processing using cyanide vat leaching, tailings impoundment in Sherman Creek, marine discharge of process wastewater and various support facilities including liquefied petroleum gas for power generation.
- 1997 Kensington Gold Project FSEIS and ROD (Forest Service, 1997):
In 1995, prior to obtaining all necessary permits, Coeur Alaska became the sole stakeholder in the property. Coeur Alaska submitted an Amended Plan of Operations to the Forest Service that was again revised in 1996 during the NEPA process. The 1997 decision selected Alternative D. Major project changes approved as part of Alternative D in the 1997 decision included off-site shipment of concentrate rather than on-site cyanide leaching, elimination of the slurry disposal dam in Sherman Creek in favor of a dry tailings disposal facility, and use of diesel fuel rather than liquefied petroleum gas for power generation. Subsequently, the Forest Service approved an amended plan of operations consistent with the Selected Alternative in May of 1998. Coeur Alaska obtained all permits necessary for construction from federal, state, and local authorities.
- 2004 Kensington Gold Project FSEIS and ROD (Forest Service, 2004a):
In 2001, Coeur Alaska again submitted an amendment to the Plan of Operations for the stated purpose of improving efficiency and reducing the extent of surface disturbance of the approved project. Proposed changes included moving the location of the processing facilities from National Forest System lands in the Sherman Creek drainage to private lands in the Johnson Creek drainage near the historic Jualin Mine workings, subaqueous tailings disposal in Lower Slate Lake, an access tunnel from the mill to the Kensington claims and a daily commute of workers via shuttle boat rather than on-site housing with helicopter access. The operation would also mine a smaller portion of the ore body containing a higher average gold concentration than proposed under previous plans. The amended plan called for daily marine transportation for workers. A Supplemental EIS was prepared and the 2004 decision selected Alternative D. Alternative D represents the current operations at the mine under the 2005 Plan of Operations and the No Action Alternative in the 2020 Draft and Final Supplemental Environmental Impact Statement (SEIS) documents. Legal challenges delayed the mine from opening until 2010 and the mine has been in operation since. The 2004 ROD provides the rationale for selecting Alternative D over the other alternatives, including alternatives that would have produced more tailings and waste rock than Alternative D and stored the tailings in a dry tailings facility on NFS in the Sherman Creek drainage. The Forest Service determined that Alternative D provided the best combination of components to minimize ground disturbance, reduce impacts to wetlands, provide safe and efficient transportation of workers, and reduce on-site fuel storage with the related risk of fuel spills within the framework of existing laws, regulations, and policies while meeting the stated purpose and need.
- 2014 Kensington Fuel Depot Environmental Assessment, response to comments, and Decision Notice and Finding of No Significant Impact (Forest Service, 2014).
- 2018 Surface Exploration 2018-2022 Environmental Assessment, Decision Notice and Finding of No Significant Impact (Forest Service, 2018).

The 2004 FSEIS was a supplement to the 1997 Kensington Gold Project FSEIS. For the purposes of the current FSEIS, the 2004 FSEIS incorporated the relevant information from previous NEPA activities. The 2004, 2014, and 2018 NEPA documents are incorporated by reference into this NEPA review per the Council on Environmental Quality's (CEQ) NEPA implementing regulations at Title 40 CFR section 1502.21 and form the basis of the project's baseline and history.

Decision

This Final ROD documents my decision to implement the Proposed Action Alternative, hereafter referred to as the Selected Alternative, from the POA 1 for the Kensington Mine FSEIS.

In making this decision I considered:

- How best to meet the purpose and need for this project;
- Issues raised during scoping;
- Input provided by cooperating agencies and other agencies;
- The relative environmental effects and outputs of the No Action Alternative and all three action alternatives described in the FSEIS;
- Public comments received;
- Consistency with the 2016 Tongass National Forest Land and Resource Management Plan (Forest Plan);
- Consistency with Laws and Regulations, including the General Mining Law of 1872; and
- Additional direction provided by the Objection Reviewing Officer to remedy some of the concerns expressed during the objection and resolution review process.

Selected Alternative

The Selected Alternative authorizes Coeur Alaska, the project applicant, to construct and operate the Kensington Mine, and includes amendments to the approved 2005 Plan Operations to extend the life of the mine for a minimum of 10 years. In addition to the already approved operations, the Selected Alternative will extend the mine life a minimum of 10 years or to approximately 2033 and will result in the following:

- Raising the Tailings Treatment Facility (TTF) dam by 36 feet (Stage 4) and constructing a 40-foot-high Back Dam between the TTF and Upper Slate Lake (both the Stage 4 and Back Dam are subject to dam safety approval), which would increase tailings disposal capacity to 8.5 million tons, an increase of 4.0 million tons;
- Continue to backfill approximately 40 percent of the total tailings produced, consistent with the current operations;
- Relocating components of the seepage collection system (sumps, access road, power line, pipelines, and stormwater diversion channels);
- Expanding the size of the existing Kensington, Pit #4, and Comet Waste Rock Storage (WRS) facilities to provide an additional 2.7 million tons of capacity;
- Constructing a new Pipeline Road WRS area to accommodate a 2.3 million-ton capacity;
- Increasing the mill throughput rate from 2,000 to 3,000 tons per day. (Note: the Forest Service did not view Coeur Alaska's increase in the mill throughput in their POA 1 request as a production limit because the Forest Service does not regulate mining rates or potential increases);

- Enhancing Dolly Varden char spawning habitat by constructing two deltas, constructing a new stream channel to reroute Fat Rat Creek into South Creek, constructing approximately 0.6 mile (3.1 acres) of new temporary access roads to access the two deltas (0.3 acre and 0.5 acre), and replacing three culverts to provide fish passage; and
- Constructing 1.75 miles of new access road (Spillway, Back Dam, Fat Rat Diversion, and Upper Slate Creek Delta Access Roads).

The three culverts identified above as currently not meeting regulatory requirements for fish passage are located at Spectacle Creek, Fat Rat, and South Creek and will be replaced during the initial construction notice to proceed as opposed to waiting until closure as proposed under POA 1. The Forest Service will work with Coeur Alaska to identify any other existing culverts not meeting AOP requirements and prioritize them for replacement. Final AOP designs will be reviewed and approved by Forest Service fish biologists and engineers, to ensure that any new structures associated with new roads be designed and constructed to provide for migration or other movement of aquatic life, in accordance with applicable best management practices (BMP) as described in Section 3.5.3.2 in the FSEIS.

The Selected Alternative will generate up to 184 acres of additional disturbance of which approximately 128 acres are located on NFS lands. The Selected Alternative disturbance footprints are displayed on Figures 2.3-2 through Figure 2.3-10 and Table 2.3-1 in the FSEIS, which show the acres of disturbance by facility, including land ownership.

Rationale for the Decision

My rationale for this decision is based on the project-specific environmental analysis included in the POA 1 for the Kensington Mine FSEIS and appendices, comments received during the development of the project and previous analyses and decisions (Forest Service, 1992; Forest Service, 2004a; Forest Service, 2004b; Forest Service, 2014). I considered the objectives to meet the purpose and need for this project and the issues that arose during scoping, public meetings and the Draft Supplemental Environmental Impact Statement (DSEIS) comment period, both in support of and opposition to this project, as well as those received during the objection period. One significant issue, impacts to the aquatic environment, was identified for evaluation in the SEIS and used to develop alternatives to the proposed action based on public scoping, internal review, and cooperating agencies input.

I also considered the statutory rights conferred by the General Mining Law of 1872 of citizens to enter upon public lands to search for and remove minerals (36 CFR 228 Subpart A). The Forest Service can reasonably regulate mining activities but cannot impermissibly encroach on legitimate uses incident to operations authorized under the General Mining Law of 1872.

I have evaluated the beneficial and adverse environmental effects of the action alternatives as documented in the environmental analyses and considered Forest Plan direction relevant to this project and the competing interests and values of the public. In addition, I have reviewed comments from the cooperating agencies, including USACE, U.S. Environmental Protection Agency (EPA), the State of Alaska, and City and Borough of Juneau prior to making my decision. I considered all viewpoints and incorporated them where feasible and consistent with the purpose and need of the project. The Selected Alternative best addresses concerns over long-term containment of acid rock drainage through water cover and will eliminate the need to maintain the Upper Slate Lake bypass pipe in perpetuity allowing for a more fully functioning lake system at closure.

In relation to the risk to the marine environment in Berners Bay from an extremely unlikely dam failure, I found the analysis presented in the FSEIS shows that the overall consequences of impacts from the selected alternative are relatively similar among all alternatives, including the No Action.

I found the risk of dam failure was carefully considered during the NEPA process and contributed to the development of the significant issue. The existing Stage 3 Dam is classified as a Class II dam according to Alaska Department of Natural Resources (ADNR) criteria but designed as a Class I dam (high hazard) because of the indefinite service life requirements for a mine tailings dam. The Stage 4 Dam included in the Selected Alternative will also be designed as a Class I dam. In addition, the spillway design will provide at least 50 percent more capacity than required to safely pass the rain-on-snow Probable Maximum Flood event while maintaining a minimum of 2 feet of dry freeboard below the crest of the Dam.

Section 3.2 in the FSEIS discusses methods used to evaluate the relative risk of dam failure for each alternative. The relative risk is a function of the probability an event would occur (e.g., Factor of Safety) coupled with the consequences (release volume and likelihood of reaching Slate Cove) should failure occur. The Factor of Safety for the Selected Alternative as well as the other Action Alternatives all exhibit a minimum geotechnical static Factor of Safety of 1.5 against instability and similar failure modes for their ultimate final configuration. Although estimated release volumes reaching Slate Cove vary among all alternatives, including the No Action, the effect to Slate Creek and the marine environment from a release are relatively the same under all the alternatives in that the result would trigger catastrophic consequences. The current design will accommodate flows resulting from storms with return periods in excess of 200 years, including the probable maximum flood. Even under predicted climate change scenarios with increased annual and storm event precipitation, the conservatively designed spillway capacity (150 percent of Probable Maximum Flood) would accommodate increased flows.

The FSEIS (page 3-12) states: “A similar analysis will be conducted for the Stage 4 Dam once the design of that dam has reached a suitable level for such analysis to comply with the Alaska Dam Safety Program requirements when requesting a *Certificate of Approval to Construct or Modify a Dam* (ADNR, 2019). As the Stage 4 and Stage 3 structures would be very similar, the potential failure modes is also anticipated to be very similar.” The Forest Service will work closely with the State’s Dam Safety Program through the final design and certification process to ensure it addresses climate and remains in line with the final closure and reclamation plan.

To further address concerns over dam safety my decision also incorporates additional mitigation to require Coeur Alaska to establish an Independent Engineering Review Board to provide ongoing independent review of the design, construction, operation, water and mass balance, maintenance, monitoring, performance, and risk management of the TTF and dams. The mitigation section of this decision discusses this in more detail.

In relation to loss of wetlands and Waters of the United States (WOTUS), I found the major difference in effects to wetlands under the selected alternative stems from changing from one wetland type to another through inundation. The loss of wetlands due to fill is the same under the selected alternative as it is for the Filtered Tailings Facility with No Stage 4 Dam and TTF Closure with Reduced Water alternatives.

I also considered the differences between the selected alternative and the other action alternatives in relation to loss of stream and aquatic habitat. The selected alternative has greater impacts to both fish and non-fish stream habitat, including Riparian Management Areas, due to the loss of stream habitat through inundation in the TTF area resulting from the flooding of Upper Slate Lake and portions of tributary streams. I considered these additional impacts with the fish habitat enhancement opportunities that are possible under the Selected Alternative and were analyzed as a design element under Coeur Alaska’s proposed POA 1. These opportunities are intended to enhance Dolly Varden char spawning habitat in the Slate Lakes area, reestablish a viable population of fish and benthic organisms within the reclaimed lake and to provide greater potential for long-term benefits to the aquatic resource than is possible under the other action alternatives. My consideration of these fish

enhancement activities and the role of the Forest Service in ensuring the feasibility and the beneficial outcome is discussed further under the *Impacts on the Aquatic Environment* section below.

As mentioned previously, the Selected Alternative removes the Upper Slate Lake bypass pipe eliminating the long-term need to maintain this diversion pipe while providing for a self-sustaining aquatic lake system. The 28 feet of water cover at closure as opposed to 9 feet of water under the TTF closure with reduced water alternative will allow for a more fully functioning lake system at closure. I discuss this further under the Impacts on the Aquatic Environment section below.

The mitigation requirements for unavoidable losses to wetlands and WOTUS are discussed in detail in the mitigation section of this decision. I also describe the process for ensuring any compensatory mitigation projects are developed in coordination with the Forest Service, Coeur Alaska, and cooperating agencies.

I recognize and considered that filtered tailings facilities and reduced water cover at closure methods are currently implemented or proposed at other mine operations in Alaska or elsewhere and that reduced water at closure is the current best practice for tailings management. However, it is also important that my decision consider the specific factors related to the Kensington mine; specifically, that it is an existing mine currently operating under an approved plan of operations that converted an existing lake to a wet tailings facility. Under the Selected Alternative, the TTF will be reclaimed with mitigation and monitoring measures to allow the TTF to return to a better functioning lake system over the long term than under the other action alternatives.

My decision considers and values the practical benefits of the Selected Alternative in maintaining operations at the mine virtually the same as currently approved. I considered that the mine has over 10 years of experience operating this project and the value of not changing operations that the mine is familiar with and has efficiently operated under their currently approved plan of operations. My decision balances this with both the beneficial and adverse aspects of the Selected Alternative related to environmental impacts that I discuss above.

Finally, recognizing that switching to an alternative tailings disposal system was analyzed in detail, including review of several alternative tailings disposal systems that were analyzed under previous NEPA documents, I have found for the reasons I discuss above, including additional requirements to address concerns over dam safety and potential water quality concerns related to the existing and expanded Comet WRS facility, that they do not substantially reduce the relative potential for environmental harm over the Selected Alternative. I recognize that current operations are intended to be protective of the aquatic environment as well as other resources and I do not foresee that changing by authorizing the mine to continue operating another 10 years into the future under the Selected Alternative.

How the Selected Alternative Meets the Purpose and Need

The purpose and need is to consider Coeur Alaska's proposed modification to their 2005 Plan of Operations for the Kensington Mine and decide whether to approve or approve with modifications to Coeur Alaska's proposed project. Although all of the alternatives studied in detail extend the life of the mine by 10 years, provide additional waste rock storage, allow for an increase in mill rate, are protective of the environment, keep people safe, and meet regulatory requirements; the Selected Alternative design and its closure plan better addresses long-term containment of acid rock drainage through water cover, provides additional opportunities for fish habitat enhancement that was not possible under the currently approved closure plan or under the other action alternatives because there would not be sufficient surface water to implement, and would eliminate the need to maintain the Upper Slate Lake bypass pipe in perpetuity.

How Issues were Considered and Addressed

Comments received during the project scoping period and the public meetings were used to identify issues and develop alternatives for the DSEIS. Comments received during the DSEIS comment period were used to further refine issues and alternatives, make corrections, and improve the analysis documented in the DSEIS with responses to those comments included in Appendix A of the FSEIS. In addition, I have responded to direction provided by the Objection Reviewing Officer to remedy some of the concerns expressed during the objection and resolution review process.

Impacts on the Aquatic Environment

Expansion of tailings and waste rock areas, increased production of tailings, construction, and the consequences of dam failure due to increased water and tailings behind the dam may adversely affect aquatic resources; specifically, water quality, fish habitat, streams, wetlands, and other WOTUS from Sherman, Slate, and Johnson creeks to Slate Creek Cove.

The Selected Alternative:

- Provides the best opportunity to address long-term acid drainage by encapsulating and/or inundating exposed graphitic phyllite in the area of the existing TTF dam;
- Protects water quality because all water treatment discharge will be required to meet Alaska Water Quality Standards prior to discharge;
- Reclaims, mitigates, and monitors unavoidable adverse impacts to wetlands and streams with identified measures as defined in POA 1 (NewFields, 2018) and/or required by USACE to be commensurate with unavoidable resource impacts;
- Provides an opportunity to improve fish habitat that is not possible under the currently approved closure plan or other action alternatives;
- Eliminates the need to maintain the current Upper Slate Lake bypass pipe in perpetuity limiting the natural connection between the Slate Lake system; and
- Maintains the opportunity to reestablish habitat that will support a fish population in the TTF at closure.

Risk of dam failure was a key public concern, which led to further evaluating this as a significant issue. Potential impacts from an extremely unlikely event should not be confused with impacts that are inevitable or likely to occur under each of the alternatives. The TTF dam has been designed and constructed in a conservative fashion in accordance with Best Available Technology not to fail, as would any of the alternatives considered in the FSEIS. Section 3.2 of the FSEIS provides detailed information regarding TTF dam safety and geotechnical stability, including review of an unlikely geotechnical failure, and resulting breach of the dam under each alternative (FSEIS, Table 3.2-2).

Although the TTF Closure with Reduced Water alternative has relatively fewer environmental impacts than the Selected Alternative or the Filtered Tailings alternatives, the Selected Alternative addresses other issues deemed important to making my decision in the following ways.

The Selected Alternative addresses graphitic phyllite long term through continued placement of previously excavated material underground with a paste backfill but would provide a water cover of existing graphitic phyllite exposed near the dam (which could not be accomplished through other alternatives). At closure, the current graphitic phyllite in the Stage 3 spillway would be inundated under water in the TTF to prevent further exposure to the air and eliminate acid rock drainage potential in the previously exposed area.

The Selected Alternative includes reasonable measures to minimize effects to wetlands. Although affected wetland acres are higher under the selected alternative, over half of these acres result in

wetland conversion rather than loss. Wetland loss through fill is similar to the Filtered Tailings Facility alternative (9.1 acres under the Selected Alternatives vs. 9.0 acres), and only slightly greater under the TTF Closure with Reduced Water alternative (6.6 acres). The closure and reclamation plan will provide a net increase to previously disturbed wetlands at the end of the active reclamation phase of the project.

The Selected Alternative is intended to provide long-term fish habitat with reclamation of the TTF as a self-sustaining aquatic system. It also retains operational and closure conditions similar to those that have been established over the last 10 years and approved in the 2013 closure plan. Although approximately 0.3 mile of Dolly Varden char stream habitat would be lost through inundation at closure, long-term fish habitat in the Selected Alternative would be developed through providing better access for fish to the water in the TTF and converting the TTF to a functioning lake with 28 feet of water cover at closure. In comparison, the Filtered Tailings Facility and TTF Closure with Reduced Water alternatives both would have water cover depths of approximately 9 feet, which would likely limit Dolly Varden char habitat due to higher water temperatures in the summer and probable icing and/or low oxygen levels in the winter. In addition, under the Selected Alternative the existing bypass pipe between Upper Slate Lake to below the TTF dam would no longer be required at closure once the water quality in the TTF is suitable, and in addition to eliminating the long-term obligation for maintenance and inspection of diversion and diversion pipeline, it would allow the passive restocking of Dolly Varden char from Upper Slate Lake to the TTF area.

The fish habitat enhancement opportunity under the Selected Alternative is considered a design element to Coeur Alaska's POA 1 and stems from several fish habitat investigations at Kensington by the Alaska Department of Fish and Game (ADF&G) to identify possible opportunities to enhance Dolly Varden char and their habitat within the Slate Lakes area (Albrecht, 2018). The enhancement opportunities are only possible under the Selected Alternative due to the dam raise and inundation of Upper Slate Lake and portions of Upper Slate Creek and tributaries at closure. The fish habitat enhancement includes adding fish habitat through the rerouting of Fat Rat Creek and constructing two deltas to provide an overall gain of 0.2 mile of spawning habitat and 0.72 mile of rearing habitat (rearing includes spawning habitat). The enhancement projects are intended to increase spawning habitat over current conditions as well as gaining rearing habitat (Albrecht, 2018; KC Harvey, 2019). In addition, the inundation of Upper Slate Lake at closure could provide new rearing habitat of up to 44.9 acres. Although the success of the conceptual designs for these stream and lake spawning enhancement opportunities cannot be completely assured, the Forest Service, ADF&G, and Coeur Alaska will coordinate through final design to ensure it is a feasible project and beneficial to water quality and fish habitat before implementing.

Up to 0.74 mile of Class II fish streams would be lost through fill by expansion of existing WRS (Comet, Kensington, and Pit #4) and construction of a new WRS (Pipeline) area. The Closure with Reduced Water alternative does not provide possible additional fish habitat, nor does it address the currently exposed graphitic phyllite near the spillway. Although the other Action Alternatives would not affect Upper Slate Lake, both would require the retention and maintenance in perpetuity of the existing bypass pipe from Upper Slate Lake to below the TTF dam. While the Selected Alternative would eventually combine Upper Slate Lake and the TTF at closure, and only after water quality in the TTF is suitable, the impact on fish of combining the lakes would be considered beneficial as designed and also allow the removal of the existing bypass pipe which would eliminate long-term obligations for maintenance, inspections, and probability of failure in the future.

Other Factors Considered

While both the No Action Alternative and the Selected Alternative include environmental impacts ranging from short to long term, each are protective of water and air quality standards. Each has different environmentally negative and positive aspects that, when compared, make the two

alternatives different but relatively similar with respect to overall impact to the environment. All alternatives are protective of the aquatic environment as well as other resources and I do not see that changing by authorizing the mine to continue operating another 10 years into the future. The Selected Alternative total disturbance acres at closure would affect approximately 37 to 46 more acres than the other Action Alternatives with approximately 298 acres located on NFS lands (FSEIS Table 2.7-1).

I have reviewed input from the EPA and the ADNR in reaching my determination. Comments from both agencies were submitted on the DSEIS as well as discussions during Cooperating Agency meetings and were addressed in the FSEIS and included in the project record.

Climate Change

Pursuant to Executive Order 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, CEQ rescinded its 2019 Draft NEPA Guidance on Consideration of Greenhouse Gas Emissions and is reviewing, for revision and update, the 2016 Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews.

The 2016 CEQ Guidance identified climate change as a fundamental environmental issue and directed Federal agencies to consider the extent to which a proposed action and its reasonable alternatives would contribute to climate change, through greenhouse gas emissions, and take into account the ways in which a changing climate may impact the proposed action and any alternative actions, change the action's environmental effects over the lifetime of those effects, and alter the overall environmental implications of such actions. Operations conducted under the current air permit and the Selected Alternative would result in no additional annual emissions from those analyzed previously and disclosed in the 2004 FSEIS, pages 4-2 to 4-8.

I also considered how climate change could affect elements of the Selected Alternative or contribute cumulatively to its effects. There is uncertainty in the magnitude of changes in the climate; however, most models suggest warmer, wetter conditions for Alaska. They generally project that rainfall may increase and snowfall may decrease at lower elevations in Southeast Alaska over the next 50 to 100 years. By designing the spillway under the selected alternative to pass at least the 1.5 times the rain-on-snow potential maximum flood event while maintaining a minimum of 2 feet of dry freeboard below the dam crest, it is expected that the design is resilient to climate change and modeled increased precipitation; however, Coeur Alaska will be required to update the hydrologic modeling of the TTF and the mean annual precipitation used in these and other plans during final designs of the TTF expansion and prior to the second phase of approval. The Climate Change Vulnerability Assessment for Aquatic Resources in the Tongass National Forest (EcoAdapt, 2014) identified how important resources across the Tongass National Forest are likely to be affected by both non-climate stressors, such as mining, and future climate conditions. While EcoAdapt's assessment noted that regulation and monitoring ensure that current and future mines have negligible impacts on downstream water quality, it also recommended that project planning consider climate change. Section 3.12 of the FSEIS provides a climate change assessment for each resource.

Although differences in annual greenhouse gas emissions between the Selected Alternative and the other action alternatives are minor, annual emissions would not rise above those previously analyzed in the 2004 FSEIS. I also considered that additional power would likely be needed for the Filtered Tailings Facility alternative due to the need to construct and power a new filtered tailings plant. This would require Coeur Alaska to add generation capacity and the need for additional haul trucks to move tailings from a new filtered tailings facility to the disposal area. The Selected Alternative would not require increased generation capacity or an increase in truck haul to dispose of tailings resulting in less annual emissions over the Filtered Tailings Facility alternative.

Alternatives

Alternatives Considered in Detail

Four alternatives were considered in detail, including the No Action Alternative. All Action Alternatives, except for the No Action Alternative, respond to the purpose and need. The Action Alternatives provide differing methods on how tailings would be handled through closure, along with two potential WRS location options. Together with additional alternatives considered but eliminated from detailed study, these provided a reasonable range of alternatives. For a full description of the alternatives, see Chapter 2 of the FSEIS. Tables 2.7-1, 2.7-2, and 2.7-3 in the FSEIS compare alternatives by key project components and by resource.

No Action Alternative

The No Action Alternative represents currently approved operations. The No Action Alternative serves as an environmental baseline for evaluating effects of the Proposed Action (Selected Alternative) and other Action Alternatives. Under the No Action Alternative, the Forest Service would not approve an amendment to the 2005 Plan of Operations and the USACE would not issue a Clean Water Act Section 404 Department of the Army permit, and no additional tailings management or WRS would be developed beyond what is currently permitted under the 2005 Plan of Operations. Coeur Alaska would continue to operate under the 2005 Plan of Operations until the existing storage capacity (4.5 million tons of tailings) has been filled, which is estimated to occur in 2023 based on current production rates.

Once the existing storage is consumed, the mine would discontinue operations and reclamation would begin. Components of the No Action Alternative are depicted on Figure 2.2-1 through Figure 2.2-5 in the FSEIS. Section 3.0 of the POA 1 provides a detailed description of the current operation and is summarized Section 2.2 of the FSEIS along with ongoing conservation measures and post-closure monitoring and maintenance requirements.

Other operations and facilities would not change and are provided to give a full overview. Approximately 239 acres are currently disturbed. Approximately 170 acres of disturbance is located on NFS lands. The 2005 Plan of Operations approved 249.2 acres of disturbance.

The affected lands are administered by the Forest Service; however, they remain open to mineral entry. The General Mining Law of 1872 confers a statutory right to enter upon the public lands to search for and remove minerals (36 CFR 228 Subpart A). While the Forest Service has the authority to include reasonable requirements for operations to minimize adverse environmental impacts on NFS surface resources, it cannot impermissibly encroach on legitimate uses incident to operations authorized under the General Mining Law of 1872. The No Action Alternative would be an encroachment on these statutory rights and would be inconsistent with the Forest Plan (Forest Plan, MG2.11; pg.4-36).

Proposed Action—POA 1

The Proposed Action is the Selected Alternative. This alternative is summarized above in the *Selected Alternative* section.

Filtered Tailings Facility with No Stage 4 Dam Alternative

This alternative was suggested in public comment to possibly reduce the risk and consequence of dam failure by eliminating the additional 4.5 million tons of tailings and approximately 1,000 acre-feet of water stored in the TTF over the Proposed Action with the Stage 4 Dam and retain the Stage 3 Dam configuration. This alternative would maintain natural fish habitat in Upper Slate Lake; therefore, the fish enhancement in the Proposed Action would not occur. Table 2.4-1 in the FSEIS shows the likely disturbance created by the Filtered Tailings Facility Alternative.

A Filtered Tailings Facility would be the method of tailings treatment and storage. Filtered tailings are created by mechanically removing moisture from slurry tailings to produce a filter cake that is typically in the range of 80 percent solids by mass and would occur at a new filter plant. Water removed would be sent to a WTP, treated, then reused in the milling process. The filtered tailings would be stacked in lifts, compacted and a final cover consisting of till soil would be placed over the tailings at reclamation. The Filtered Tailings Facility would be located immediately northwest of the existing TTF and southwest of Upper Slate Lake (Figure 2.4-1 in the FSEIS). This location retains the tailings in the same watershed as the existing TTF, thus avoiding tailings impacts on other watersheds.

Preliminary engineering suggests the placement of a rockfill toe buttress is needed, but additional design would be necessary to address potential construction and operational challenges. A new filter plant would be constructed northeast of the existing TTF, and filtered tailings would be hauled by truck from the filter plant to the Filtered Tailings Facility. This would require constructing 0.7 miles of road suitable for haul trucks, potentially double wide with appropriate geotechnical foundation to support haul trucks. A truck wash with appropriate water collection controls would also be necessary for trucks leaving the facility after depositing tailings to minimize transport of tailings outside of the disposal area. Tailings would need to be hauled from a new filtered tailings facility the approximately 0.7 miles to the tailings disposal site and is estimated that an addition of 37 truck trips per day would be needed.

The existing TTF would be kept separate from Upper Slate Lake. The existing TTF would be available and used under certain conditions, such as during filter plant maintenance or breakdowns. The existing Stage 3 TTF would be closed as currently permitted (see Section 2.2.7 in the FSEIS), with 28 feet of water cover.

The Filtered Tailings Facility with No Stage 4 Dam Alternative would generate 138 acres of additional disturbance of which approximately 81 acres are located on NFS lands.

TTF Closure with Reduced Water Alternative

Scoping comments identified a concern about the potential for a TTF dam failure to cause greater downstream effects if floodwater washes tailings downstream. Several commenters noted that more water in the TTF increased the potential for more tailings to be released downstream, or that tailings released would move farther downstream. Some suggested the TTF be closed “dry” when mining was complete by eliminating the water at closure. An alternative to drain the water from the TTF and close it without a water cover was considered but not studied in detail (see Section 2.5.1 in the FSEIS). In response to this concern, Coeur Alaska developed an alternative that provides storage for an additional 4 million tons of tailings, as in the proposed action, but reduces the amount of water stored on the TTF at closure, to meet the purpose and need. The Stage 4 dam would not be constructed to as high an elevation as the proposed action (i.e., 17 feet versus 36 feet under the Proposed Action) but would provide the same volume of tailings storage, because it would store less water. The lower elevation would reduce the rockfill volume required to construct the dam, its footprint, and the overall area of disturbance.

This dam would maintain a maximum 9-foot operational water pool over the tailings and the required freeboard to accommodate the design storm event while reducing the amount of waste rock required to construct the Stage 4 Dam and its final footprint. The Back Dam between Lower and Upper Slate Lake (as depicted in the Proposed Action) would be constructed.

Near the end of operations, tailings would be deposited near the dam and possibly through a series of spigots to facilitate beach development (see Figure 2.4-2 in the FSEIS) instead of an underwater pipeline as is used in the No Action Alternative and Proposed Action. This method would create a beach of the tailings sand above the water level near the Stage 4 Dam, which would force the water to the north, away from the dam. The beach area would extend from the Stage 4 Dam to the north

approximately 400 feet. At closure, approximately 70 surface acres of open water would be retained with a maximum of 9 feet of water over tailings.

The TTF Closure with Reduced Water Alternative would generate 147 acres of additional disturbance of which approximately 91 acres are located on NFS lands.

WRS Options

To address potential impacts to the aquatic environment and public comments, alternative WRS areas that would avoid and/or minimize impacts on wetlands from the Proposed Action were reviewed. Two other WRS Options were developed and analyzed in an effort to reduce wetland and WOTUS impacts. Johnson Creek WRS and Snowberm Road WRS were analyzed separately from those analyzed under the Proposed Action, Filtered Tailings Facility, or TTF Closure with Reduced Water Alternatives (e.g., Comet WRS, Kensington WRS, and Pit #4 WRS expansions and a new WRS located off Pipeline Road). Johnson Creek WRS would disturb approximately 47 acres with 46 acres located on NFS lands and would have a storage capacity of 3.3 million tons. A new 0.7-mile road would need to be constructed from the mill site south to the Johnson Creek WRS area to allow for year around access. Snowberm Road WRS would disturb approximately 5 acres and be able to store approximately 0.1 million tons. Various combinations of WRS Options are possible to provide the minimum 5 million tons of WRS needed. Tables 3.4-7 and 3.4-8 summarize impacts to wetlands and other WOTUS from each of the WRS areas, including the Johnson Creek and Snowberm WRS Options. Although the WRS facilities, as proposed, attempted to avoid and/or minimize impacts to wetlands and other WOTUS during design, impacts disclosed in the SEIS were for all remaining, unavoidable impacts within the WRS area footprints.

Reclamation and closure, mitigation and conservation measures, and financial assurance (except specific value) would be the same as described in the Proposed Action (FSEIS Sections 2.3.5, 2.3.6, and 2.3.7, respectively).

Alternatives Considered but Eliminated from Detailed Study

Several alternatives were considered but eliminated from detailed study during the planning process. These alternatives ranged from alternative TTF closure methods, tailings disposal methods, alternative tailings facility and WRS locations, increasing underground tailings backfill, changes to current water treatment methods, looking at a longer life of mine timeframe, and modifying aspects of each of the action alternatives to potentially reduce environmental impacts further. The rationale for not carrying them forward into detailed analysis is provided in Section 2.5 of the FSEIS.

I considered suggestions to use an alternative location for tailings disposal near Comet Beach rather than within the Slate Creek drainage. However, the existing infrastructure for ore processing and movement of tailings occurs within the Johnson and Slate Creek drainages. The location of these facilities was approved in 2004, in part, because it was determined to be the best combination of components to minimize ground disturbance and reduce impacts to wetlands. Since the 2004 decision has been implemented, expanding the disturbance footprint to include new tailings facilities at Comet Beach would create additional adverse effects.

Additional alternatives were studied under previous NEPA analyses and were not considered further. These alternatives include submarine tailings disposal, marine discharge of wastewater, wet and dry tailings disposal in the Sherman Creek drainage, use of liquefied petroleum gas in the generators, and on-site cyanidation. The reader is referred to the 1992 Final EIS, the 1997 SEIS, and the 2004 FSEIS for additional detail.

Environmentally Preferable Alternative

I have identified the No Action Alternative as the environmentally preferable alternative (based on definition at 36 CFR 220.3). Under the No Action Alternative, the Forest Service would not authorize the Plan of Operations Amendment to extend the life of the mine. Coeur Alaska would continue to operate under the 2005 Plan of Operations until the existing storage capacity (4.5 million tons of tailings) has been filled, which is estimated to occur in 2023 based on current production rates. Once the existing storage is consumed, the mine would discontinue operations and reclamation would begin. The No Action Alternative would result in no additional project-related environmental disturbance as compared to the Selected Alternative and other action alternatives and is therefore the environmentally preferable alternative.

Public Involvement

To seek input on the POA 1 for the Kensington Mine Project, the Forest Service employed public meetings, *Federal Register* notices, newspaper ads, government-to-government consultation, group and individual meetings, and the Tongass National Forest Schedule of Proposed Actions.

The Forest Service conducted public scoping beginning with the publication of a Notice of Intent to prepare a SEIS published in the *Federal Register* (84 *Federal Register* [FR] 49711) on September 23, 2019 (*Federal Register*, 2019). Legal notices were placed in the *Ketchikan Daily News* and the *Juneau Empire* on September 24, 2019, and in the *Chilkat Valley News* on September 26, 2019. Scoping information, including the POA 1 document, Scoping Letter, and Scoping Figures, were sent to the following potentially affected tribal governments: Chilkoot Indian Association, Central Council Tlingit & Haida Indian Tribes of Alaska, Douglas Indian Association, Alaska Native Corporations including Klukwan, Inc., Goldbelt, Inc., and Sealaska Corporation. During the scoping period, the Forest Service hosted two public meetings: one in Juneau and Haines on October 8 and October 9, 2019, respectively. Both meetings were held between 5 and 8 p.m. Additionally, a scoping meeting was held for interested government agencies on October 8, also in Juneau. Representatives from the State of Alaska (ADNR, ADF&G, Alaska Department of Environmental Conservation [ADEC]), USACE, the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries), and City and Borough of Juneau participated along with the Forest Service and Coeur Alaska. All scoping materials were also posted on the Forest Service website at <https://www.fs.usda.gov/project/?project=55533>. The project was listed on the Tongass National Forest's Schedule of Proposed Actions beginning April 1, 2019.

The DSEIS comment period started on October 30, 2020, with publication of the Notice of Availability in the *Federal Register* (85 FR 68871). The original 45-day comment period was extended about 3 weeks until January 4, 2021, at the request of the public. Due to the COVID-19 pandemic, the Forest Service supported an informational website through the duration of the public comment period and held one virtual meeting on December 10, 2020 in lieu of in-person public meetings.

Comments within the scope of this project have been addressed and incorporated into the FSEIS to the extent practicable. I have reviewed the public and agency comments received during this analysis and the responses to those comments are provided in the FSEIS, Appendix A.

Mitigation

The analysis documented in the FSEIS discloses the possible adverse effects of implementing the Selected Alternative. Mitigation measures are guided by Forest-wide goals and objectives, applicable Land Use Designation (LUD) management prescriptions, and Forest Plan Standards and Guidelines. The Selected Alternative would continue to implement conservation measures and conduct monitoring similar to the 2005 Plan of Operations. Differences include a new Stormwater Pollution Prevention

Plan to address stormwater for the expansions, including the TTF infrastructure and the development of a Programmatic Agreement to address potential mitigation for adverse impacts to historic properties near selected WRS areas. All appropriate Forest Service Region 10 BMPs, updated Forest Service National Core BMPs (Forest Service, 2012), and State of Alaska BMPs (ADEC) will apply as appropriate and are currently being applied under current operations.

To mitigate concerns over dam safety, Coeur Alaska is required to establish an Independent Engineering Review Board (IERB) to provide ongoing independent review of the design, construction, operation, water and mass balance, maintenance, monitoring, performance, and risk management of the TTF and dams. The IERB will consist of qualified third-party technical experts who are not, and have not been, directly involved with the design or operation of Coeur Alaska's TTF. The expertise of the IERB members shall reflect the range of issues relevant to the facility and its context and the complexity of these issues. Coeur Alaska will work closely with the Forest Service and the ADNR Dam Safety Program to ensure that the individuals selected for the IERB represent the necessary disciplines for the facility. Material summaries of all final IERB reviews will be provided to the Forest Service. The Forest Service and ADNR will work collaboratively with Coeur Alaska to evaluate the IERB reviews and determine if additional mitigation, monitoring, or other measures are necessary to minimize potential effects on National Forest System lands and resources, to the extent feasible.

To mitigate water quality concerns related to the existing and expanded Comet WRS facility, Coeur Alaska will be required to return water treatment plant sludge cakes to the underground mine for disposal to provide for better source control for nitrates, sulfates, and total dissolved solids.

ADF&G fish habitat permits are required for actions with potential to alter fish passage, including the TTF Stage 4 dam raise, back dam and delta construction, culvert replacements, and channel relocations. The permits will require post-construction monitoring to document conformance with project designs and compliance success. The ADF&G Habitat Section may require additional mitigation for effects on fish habitat under its Title 16 authority and would need to reevaluate and approve mitigation necessary for permanent fish habitat loss in Lower Slate Lake. Mitigation for loss of old growth is not required. Additional stream surveys following Region 10 methodologies and Tongass Forest Plan Standards and Guidelines (FISH2.III.A; pg.4-9) have been completed in the vicinity of the proposed WRS expansion areas at Comet, Kensington, and Pit #4 and new Pipeline Road WRS to confirm the extent of fish-bearing streams. In addition, the Tongass streams layer has also been updated. Unavoidable impacts to fish-bearing streams (Class II) total approximately 0.46 mile of the 1.4 miles of stream habitat analyzed in the FSEIS in the Comet WRS area and 0.28 mile of the 1.1 miles of stream habitat analyzed in the FSEIS in the Pipeline Road WRS area. Approximately 0.27 mile of unavoidable impacts to fish-bearing streams would occur on NFS lands in the Comet WRS area only; all other unavoidable impacts to fish-bearing streams would occur on patented lands. There are no other known unavoidable impacts to fish-bearing streams associated with the Project's proposed WRS areas; however, surveys will occur in 2022 in the vicinity of the growth media stockpile area below the Comet WRS to confirm no impacts to potential fish-bearing streams. Initial discussions have occurred between the Forest Service and ADF&G staff on potential mitigation opportunities in the vicinity of the Comet WRS area. Future mitigation options will be more fully developed as part of the first phase approval.

Fish Habitat Enhancement activities are included as design elements of the selected alternative for enhancement purposes and not to mitigate effects of the Selected Alternative.

Unavoidable impacts to wetlands and streams are summarized in Table R-1 below for the Selected Alternative and described in Section 3.4 of the FSEIS. Appendix E of POA 1 provides a summary of all planned reclamation at closure.

Table R-1. Summary of Unavoidable Impacts to Wetlands and Streams under the Selected Alternative by Project Component and Aquatic Resource

Component	Selected Alternative
Acres of wetlands or Waters of the US converted or lost in the TTF area when the Slate Lakes system is increased to 120 surface acres at closure ^{1/}	35.4 Conversion by Inundation: 26.3 Loss by fill: 9.1
Acres of wetlands within the WRS (Comet, Kensington, and Pit #4 WRS expansions and new Pipeline WRS areas) considered wetland loss through fill	16.9 acres
Total Acres of wetlands or Waters of the US converted or lost over short- and long-term timelines	52.4
Acres of wetland functions converted or lost over short-term timelines (see Wetland Functional Assessment [HDR, 2020a])	High: 5.4, Mod: 19.3, Low: 15.3
Acres of impacts to riparian management areas converted or lost over short- and long-term timelines. ^{2/}	33.7
Non-fish Stream Habitat lost to fill at WRS areas or inundation at TTF (miles)	4.4 [2.6 (Fill); 1.8 (Inundation)]
Miles of Fish Streams (Class II) lost to fill ^{3/}	1.04

HDR (2019a, Table 4.17-1, Summary of Evaluation Criteria); HDR, Inc. Updated GIS files dated 3/3/2021; Albrecht, 2018; NewFields, 2018; KC Harvey, 2019. Note: Totals may not add due to rounding.

1/ The Selected Alternative would expand the TTF and inundate Upper Slate Lake at closure to form a larger lake system. The increase over the current closure plan under the No Action Alternative would be approximately 54 acres. The other Action Alternatives would reduce the reclaimed TTF area by approximately 9 acres (Filtered Tailings Facility) or provide a slight increase of approximately 4 acres (TTF Closure with Reduced Water) over the No Action closure plan.

2/ Approximately 65 percent of impacts to RMAs also overlap with impacts to wetlands and other Waters of the United States.

3/ Based on recent update to the Tongass Forest streams layer. Of the approximately 2.6 miles of mapped stream habitat within the WRS areas, 0.74 mile (0.46 mile at expansion of Comet WRS and 0.28 mile at New Pipeline WRS) are documented as Class II fish streams. Of the 1.8 miles of mapped stream habitat in the area of the TTF, approximately 0.3 mile is documented fish habitat. Non-fish streams include those streams categorized as Class III/Class IV which are considered intermittent or ephemeral streams

In addition, and following the release of the USACE ROD, the Forest Service and USACE will utilize their 2020 Conservation Land Use Agreement to address unavoidable actions requiring compensatory mitigation outlined by USACE permits on private land and adjacent NFS lands. Compensatory mitigation projects will be developed in coordination with the Forest Service, Coeur Alaska, and cooperating agencies and may include the establishment, restoration, enhancement, and/or the preservation of aquatic resources implemented through a permittee-responsible mitigation plan or an in-lieu-fee program. Implementation of any mitigation projects will require Forest Service approval to ensure compliance with the Forest Plan Forest-wide Standards and Guidelines for Wetlands, Riparian, and Fish, and to apply BMPs to all land-disturbing activities as a process to protect the beneficial uses of water from non-point sources of pollution. The Forest will utilize National Core BMP Technical Guide FS-990a and Alaska Region Soil and Water Conservation Handbook (FSH 2509.22) and consult Forest Service Manual 2530, USACE Regulations (33 CFR 323.4), and the Clean Water Act (Sections 401, 402, 404, as applicable) to maintain the present and continued productivity of wetland, riparian, and fish habitat. The final reclamation plan will incorporate, as applicable, any additional USACE compensatory mitigation requirements following the above process.

Rare plant surveys to relocate pink mountain heather or other rare plants will be required within the proposed disturbance footprints for the new Pipeline Road and Comet expansion WRS areas prior to any construction or expansion activities. Forest Plan Standards and Guidelines for management of rare plants will be followed to avoid, minimize, or mitigate adverse effects. If applicable, populations of documented pink mountain heather or any previously undiscovered rare plants that would be directly affected and not avoidable would be moved and transplanted into appropriate habitat. Should any rare

plants be documented, final mitigation measures would be developed in collaboration with Forest Service botanist/ecologists.

Monitoring

Monitoring of the Selected Alternative will be done during and after implementation. Specific monitoring items included in my decision are outlined in Chapter 2 of the FSEIS, specifically Sections 2.2.7, 2.2.8, and 2.3.4 through 2.3.7, and by resource in Chapter 3. These monitoring items will be included in the construction stipulations and the project applicant is required to comply with all terms and conditions of federal and state permits.

The objection reviewing officer's instructions to me stipulated that a review of any inconsistencies between the 2014 and 2018 BMP reviews, monthly inspections, and monthly inspection and BMP review protocols be conducted to determine if additional inspection items and/or methods are needed. Protocols for BMP reviews, and regular monthly inspections conducted by the Tongass Minerals Program, were reviewed for opportunities to improve, and integrate the two processes. BMP reviews were completed in 2014 and 2018, and a follow up to the 2014 review was completed in 2015. However, action items identified in the 2018 review were not followed up in a subsequent review. To address this inconsistency, when BMP reviews are performed, recommendations and action items from the report will be integrated into regular monthly inspections performed by Tongass minerals staff. These items will be itemized and tracked until a satisfactory resolution is documented in an inspection report. In addition, the Tongass minerals staff will conduct quarterly inspections focused on specific BMP monitoring.

To inform and guide BMP reviews and regular inspections, an annual report summarizing action items will be produced and entered into the project file. This report will tabulate documented action items from the preceding year and how they were resolved. If the data in this report reveals trends or patterns warranting additional attention, targeted inspections focusing on those issues will be conducted until a satisfactory resolution is documented. This requirement has been added to Table A-1 in Attachment A of this Final ROD.

One objection raised the absence of the 2014 BMP review in the SEIS project record as a point of concern. BMP reviews will now be entered into the project file in the same manner as regular inspection reports, which are readily accessible and available to the public through an online portal maintained by the State of Alaska.

The Forest Service is requiring Coeur Alaska, through a third-party consultant, to conduct an Ecological Risk Assessment. This assessment should include a comprehensive review of all available data (from baseline and throughout operations) from the Freshwater Monitoring Plan (FWMP), Alaska Pollutant Discharge Elimination System (APDES), and biomonitoring programs, as well as any other potentially relevant data, to evaluate the effects of mine activities on environmental receptors. This Assessment should be completed within two (2) years, with the draft and final report to be made available to relevant Forest Service and regional program specialists, ADEC and other State agencies, as appropriate, to conduct a targeted review of the assessment. Based on the results, the mine will update the FWMP included in the amended Plan of Operations, as necessary. The Assessment will be available for public inspection as part of the project record.

As part of my decision, I am committing the Forest Service to work with ADF&G and Coeur Alaska to develop an effectiveness monitoring plan during final design of the fish enhancement program to track the success of the project over time. This will be completed after receiving the required Ecological Risk Assessment.

Coeur Alaska is required to provide an updated Invasive Plant Management Plan prior to authorization.

Based on approximately 10 years of monitoring, there are a number of monitoring items required under the 2005 Plan of Operations that have been modified under the Selected Alternative POA 1 or otherwise removed from continued monitoring. Continued monitoring is needed to determine whether the currently required TTF tailings cap at closure is needed and therefore the decision for the placement of a cap over the TTF tailings is being deferred until further monitoring and testing are conducted, and an updated closure plan is provided and approved.

The Forest Service will work with the ADNRC and ADEC to develop appropriate dam monitoring and inspection triggers related to storm or seismic events, including review of final designs of the WRS diversion structures. Although POA 1 used accepted engineering design to determine discharge calculations (e.g., 100-year, 24-hour storm event), should any diversions be maintained into perpetuity, the Forest Service will require Coeur Alaska to provide additional design calculations to accommodate an increase in the 100-year storm event.

A summary of all identified mitigation, conservation, and monitoring measures and requirements is provided in Attachment A.

Other Findings Required by Law and Regulation

Alaska National Interest Lands Conservation Act of 1980

Subsistence Evaluation and Findings (Section 810)

An Alaska Native Interest Lands Conservation Act, Section 810 subsistence evaluation was conducted in the 2004 FSEIS pages 4-137 to 4-138 and was reviewed against updated information. The 2004 FSEIS analysis reviewed deer hunting data for 1987 to 1994 and found no indication that the project area is used for deer hunting by either subsistence communities or residents of the City and Borough of Juneau. The 2004 FSEIS did, however, identify very limited use of deer by residents of Haines, with residents on average harvesting less than one deer per year. A review of the most recent data available (2004 to 2013) also found no indication that deer hunting occurred or that any deer were harvested in the project area over this period. Other documented subsistence use in the area identified in the 2004 FSEIS was the limited use of offshore areas to gather salmon, halibut, and invertebrates. These activities occur offshore in saltwater, where federal subsistence regulations do not apply. There is no to very limited use of the area for subsistence and, therefore, the Selected Alternative is not expected to result in a significant restriction of subsistence uses. This finding completes the Section 810 requirements for this project.

Bald and Golden Eagle Protection Act of 1940 (as amended)

The Bald and Golden Eagle Protection Act provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. The closest bald eagle nest to the project area is approximately 1 mile away, along the coastline (i.e., the nearest known bald eagle nests to the project are two nests on the coast of Berners Bay that are approximately 1 mile from the eastern boundary of the proposed Pit #4 WRS expansion). Although no bald eagle nests have been identified within the project area, this species is commonly observed during project-specific monitoring studies (Coeur Alaska, 2019; HDR, Inc., 2019b). Should an active nest be found adjacent to any proposed activity, appropriate nest site buffers and timing restrictions will be implemented.

Clean Air Act of 1970 (as amended)

Effects were disclosed in the 2004 FSEIS, pages 4-2 to 4-8, where Table 4-1 presents estimated emissions during operations, Table 4-2 shows emissions from personnel accessing the mine, and Table 4-3 compares the modeled emissions to ambient conditions and the National Ambient Air Quality

Standards. No modeled emissions would approach or threaten to surpass the standards. Operations conducted under the current air permit and the Proposed Action or other Action Alternatives would not result in additional annual emissions from those analyzed previously.

Emissions from construction of new and expanded facilities and roads are “expected to be low and mitigated in part by the frequent precipitation. Emissions from construction and operations would be short-term and limited to confined areas. Particulate emissions from construction would not exceed 9 tons per year” (Forest Service, 2004a).

On October 7, 2019, Kensington Mine was issued a minor revision to their air permit (AQ0111MSS11) to reduce their emissions (ADEC, 2019; Petersen, 2019) and revised in May 2020 (ADEC, 2020) to correct the numbering of the conditions associated with a formatting error. ADEC noted that the revisions to the permit do not change the technical bases for the permit as described in the Technical Analysis Report dated October 7, 2019, but the revisions should be considered a supplement to the Technical Analysis Report.

It can be assumed that the ambient air quality near the Kensington Mine is generally good and the site is not within a non-attainment area for any air pollutant. In the Juneau Borough, the Mendenhall Valley is designated as a non-attainment area due to particulate matter less than 10 microns in diameter (i.e., PM₁₀) from wood burning.

While energy use requirements vary by alternative, resulting air emissions would comply with air quality standards. While the Filtered Tailings Facility Alternative would require more truck traffic to transport the filtered tailings from the plant to the Filtered Tailings Facility than analyzed in the 2004 FSEIS, the overall number of trucks would still be fewer than predicted in that analysis.

Clean Water Act of 1977 (as amended)

Project activities meet all applicable State of Alaska Water Quality Standards through permitting, monitoring, and reporting. The State of Alaska has been delegated authority to administer the Clean Water Act with oversight from the USACE and EPA. The Forest Service uses BMPs outlined in the Soil and Water Conservation Handbook to minimize disturbance and meet Clean Water Act objectives. The use of BMPs, BMP monitoring, and adaptive management methods are outlined in a Memorandum of Agreement between Forest Service and ADEC.

Section 3.3.2 in the FSEIS describes applicant permits. The ADEC Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (AKROAA50) includes BMPs for stormwater management. The disposal of domestic wastewater to land is covered under ADEC’s Wastewater Disposal Permit (2007DB0021). The management, transfer, disposal, and monitoring of wastewater and tailings within the TTF is regulated by the Waste Management Permit (2013DB0002). APDES permit AK0050571 (ADEC, 2020); ambient monitoring of water quality, sediment quality, and other biological parameters is required at stations on Sherman Creek, Slate Creek, Johnson Creek, and Ophir Creek.

Endangered Species Act of 1973 (as amended)

Three marine mammals are addressed in the Biological Assessment prepared for this project. Six populations of Chinook Salmon Evolutionarily Significant Units (ESUs), one Sockeye Salmon ESU, one Coho Salmon ESU, one Chum Salmon ESU, four Distinct Population Segments (DPSs) of Steelhead Trout, and one Green Sturgeon DPS are listed under the Endangered Species Act (ESA) and are addressed in the Biological Evaluation. The project would not adversely affect any ESA-listed species or their habitats. Listed fish are not anticipated to occur in the freshwater habitats of the project area and are limited to the marine and near shore environments. The project area is not located within designated critical habitat for any ESA-listed fish species, and no impacts to designated critical habitat for marine mammal species are anticipated. We received a letter of concurrence from NOAA Fisheries

dated September 14, 2021, on our determination of a “may effect, not likely to adversely affect” for humpback whales, western DPS of Steller sea lion, and sperm whale. The Project will incorporate all mitigation measures outlined in the concurrence letter, which includes all current Standard Operating Procedures, updated contact information, and reporting changes.

Magnuson-Stevens Fishery Conservation and Management Act of 1996

Potential effects of the project on Essential Fish Habitat (EFH) were addressed in Section 3.5.2, Fish and Fish Habitat in Chapter 3 of the FSEIS. This discussion includes reference to the Magnuson-Stevens Fisheries Conservation Act that requires the Forest Service to consult with NOAA Fisheries. The detailed habitat type usage by EFH managed species is provided in the EFH assessment (HDR, Inc., 2020b).

The Forest Service determined that the project may adversely affect EFH because fish streams are directly or indirectly affected by current operations or by new clearing and construction activities. Adverse effects from the Selected Alternative on water quality and aquatic habitat would be minor (Section 3.5). By following the standards and guidelines in the Forest Plan, all appropriate Region 10 BMPs, updated Forest Service National Core BMPs (Forest Service, 2012), State of Alaska BMPs (ADEC, 2011), and the project-specific conservation measures, the effects on EFH will be minimized.

The DSEIS was provided to NOAA Fisheries to formally initiate the consultation process on October 30, 2020 and the Forest Service received formal comments on the DSEIS from NOAA Fisheries on January 5, 2021. Subsequent to their comments on the DSEIS, an EFH Assessment was submitted to NOAA Fisheries in December 2020 requesting their review and concurrence. Comments on the EFH Assessment were received on February 1, 2021 and the Forest Service provided a response to their comments and additional information in a letter on April 15, 2021. On June 7, 2021, NOAA Fisheries provided EFH conservation recommendations under the EFH provisions in Section 305(b)(2)-(4) of the Magnuson-Stevens Fisheries Conservation and Management Act and the Fish and Wildlife Coordination Act. The Forest Service has reviewed each of the conservation recommendations and provided responses to each within the FSEIS.

Marine Mammal Protection Act of 1972

Actions authorized as part of the Selected Alternative will adhere to the requirements of the Marine Mammal Protection Act. Marine mammal viewing guidelines administered by NOAA Fisheries and enforced by the U.S. Coast Guard are sufficient for their protection. Contractors and employees will be required to follow provisions on marine wildlife guidelines, including special prohibitions on approaching humpback whales in Alaska as defined in 50 CFR 224.103. NOAA Fisheries administers the Marine Mammal Protection Act, which prohibits “take” of all marine mammal species in U.S. waters. “Take” is defined as “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.” Harassment is defined as “any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild; or has the potential to disturb a marine mammal stock in the wild by causing disruption of behavior patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.”

National Forest Management Act of 1976 (as amended)

2016 Tongass National Forest Land and Resource Management Plan

The POA 1 for the Kensington Mine Project is consistent with all applicable Forest Plan components including the Management Prescription for the Minerals LUD². The Selected Alternative will implement conservation measures and conduct monitoring similar to the 2005 Plan of Operations except where otherwise specified in the reclamation and closure, mitigation and conservation measures, and financial assurance sections of the FSEIS (Sections 2.3.5, 2.3.6, and 2.3.7, respectively).

National Historic Preservation Act of 1966 (as amended)

Cultural resource surveys of various intensities were conducted in the analysis area to ensure that the procedural requirements of 36 CFR 800 were met and in accordance with the Programmatic Agreement among the Forest Service Alaska Region and the State Historic Preservation Officer (SHPO). A finding of “no historic properties affected” was recommended for all alternatives. Under the terms of the existing Programmatic Agreement with the Alaska SHPO “the Forest may proceed with the undertaking in lieu of a consensus determination of eligibility pursuant to 36 CFR 800.4.” The Forest Service engaged in consultation regarding our determination recommendations with the Alaska SHPO and received concurrence with our finding of no historic properties affected determination.

Roadless Area Conservation Rules

Roadless area conservation regulations limit certain activities in areas that are designated as inventoried roadless areas within the National Forest System. The Alaska Roadless Rule (36 CFR 294 Subpart E), published in October 2020, exempts the Tongass National Forest from the 2001 Roadless Rule (36 CFR 294 Subpart B) and concluded that the existing Forest Plan provides adequate direction and protection for roadless characteristics. On November 23, 2021, the USDA published a Notice of Proposed Rulemaking in the *Federal Register* (86 FR 66498) to repeal the final rule promulgated in 2020 that exempted the Tongass National Forest (Tongass or the Forest) from the 2001 Roadless Area Conservation Rule (2001 Roadless Rule). Repealing the Subpart E exemption would reinstate application of the 2001 Roadless Rule to the Tongass, as provided for in the U.S. District Court for the District of Alaska's Judgment in *Organized Village of Kake v. USDA*. The 2001 Roadless Rule prohibited timber harvest and road construction or reconstruction within designated Inventoried Roadless Areas (IRAs), with limited exceptions.

The project area lies within the Skagway-Juneau Icefields IRA (#301). However, the road-building, tree-cutting, and other activities in the IRA associated with this project would fall under the exceptions described at 36 CFR 294.12(b)(3) and 36 CFR 294.13(b)(2). The right of reasonable access to lands open for entry is guaranteed and is not at the discretion of the Forest Service. Exploration, mining, and mineral processing activities, including road construction and reconstruction, are allowed to the extent provided by statute and would continue should the 2001 Roadless Rule be reinstated on the Tongass.

During the time that the mine has operated when the 2001 Roadless Rule applied (2011 to 2020), several exploration operations were approved that would occur in or partially in IRAs, most recently for exploration through 2022. The Selected Alternative will not noticeably affect the roadless characteristics of the Juneau-Skagway Icefield (#301) IRA. No unique attributes will be measurably affected. The Juneau-Skagway Icefield (#301) IRA will remain significantly greater than 5,000 acres in size, retain its characteristic icefields and glaciers, and provide remoteness and opportunity for

² The Forest Plan (page 3-2) states: “The Minerals LUD is always an overlay LUD. Areas allocated to this LUD are managed according to the underlying LUD until such time that mineral development is approved, if at all.”

primitive recreation. The Selected Alternative would affect less than 0.2 percent of the roadless area. Facility development and new road construction will occur adjacent to or near existing facilities, limiting the effects to the project area. The individually identified roadless values will either remain unchanged or be minimally influenced by the Selected Alternative. Effects to roadless characteristics will diminish following mine closure and reclamation.

Executive Orders

Executive Order 11593 (Cultural Resources)

Executive Order 11593 directs federal agencies to inventory cultural resources under their jurisdiction, to nominate to the National Register of Historic Places all federally owned properties that meet the criteria, to use due caution until the inventory and nomination processes are completed, and to assure that federal plans and programs contribute to the preservation and enhancement of properties not federally owned. This project considered impacts to historic properties as part of the National Historic Preservation Act compliance and thus satisfies the requirements of Executive Order 11593.

Executive Order 11988 (Floodplains)

Executive Order 11988 directs agencies to avoid construction in and modification of floodplains. Although this act deals largely with avoiding flood damage and hazards, it also directs agencies to restore and preserve the natural and beneficial values of floodplains while planning for land use. The project proponent will be required to account for flood hazards in the design of the project and minimize the footprint of disturbance within any floodplain. Plans and designs are subject to review and approval by the Forest Service. There are no mapped flood hazard areas within the project area; however, in compliance with Executive Order 11988, I find that the Selected Alternative includes all practicable measures to minimize harm to floodplains. The project design and the application of BMPs and Riparian Management Area protection measures described in the Forest Plan Standards and Guidelines will protect riparian zone interactions among streams, floodplains, riparian wetlands, and uplands to reduce overall disturbance.

Executive Order 13690 (Flood Risk Management)

Executive Order 14030 of May 20, 2021 (Climate-Related Financial Risk) reinstated Executive Order 13690 (Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input). Executive Order 13690 is aimed at ensuring that federal investments located in or near floodplains will be resilient in the face of climate change. Executive Order 13690 revised Executive Order 11988 (Floodplain Management) and proposed a new Federal Flood Risk Management Standard to address current and future flood risk and ensure that projects funded with taxpayer dollars last as long as intended. Effects of climate change and other threats caused by flooding affect the environment, our economic prosperity, and public health and safety, each of which affects our national security.

Executive Order 13690 was revoked by Section 6 of Executive Order 13807, *Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure*. Executive Order 13807 did not revoke or otherwise alter Executive Order 11988. As such, USACE will continue to implement Executive Order 11988 according to USACE Engineering Regulation 1165-2-26. The project proponent is required to account for flood hazards in the design of the project and minimize the footprint of disturbance within any floodplain. Plans and designs are subject to review and approval by the Forest Service. As noted under Executive Order 11988, there are no mapped flood hazard areas within the project area; however, the project design will apply BMPs and Riparian Management Area protection measures described in the Forest Plan Standards and Guidelines to protect riparian zone interactions among streams, floodplains, riparian wetlands, and uplands to reduce overall disturbance.

Executive Order 11990 (Wetlands)

Executive Order 11990 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse effects associated with the destruction or modification of wetlands. Due to the extensive nature of wetlands and the interspersed nature of wetlands within the project area, complete avoidance of all wetlands is not possible under any of the action alternatives. In compliance with EO 11990, I find that the Selected Alternative includes all practicable measures to minimize harm to jurisdictional and isolated wetlands. Although affected wetland acres are higher under the selected alternative, over half of these acres result in wetland conversion rather than loss. Wetland loss through fill is similar to the Filtered Tailings Facility alternative, and only slightly greater than under the TTF Closure with Reduced Water alternative. The closure and reclamation plan will provide a net increase to previously disturbed wetlands at the end of the active reclamation phase of the project.

Executive Order 12898 (Environmental Justice)

Executive Order 12898 directs federal agencies to address whether a disproportionately high and adverse human health or environmental impact on minority populations, low-income populations, or Indian tribes is likely to result from the proposed action and any alternatives. The analysis area does not meet the CEQ's definition of a minority or low-income community (Section 3.9.2 of the FSEIS). No disproportionately high and adverse human health or environmental impacts were identified.

Executive Order 12962 (Aquatic Systems and Recreational Fisheries)

Executive Order 12962 requires federal agencies to evaluate the effects of proposed activities on aquatic systems and recreational fisheries. The Selected Alternative minimizes the effects on aquatic systems to the extent practicable through project design, application of Forest Plan Standards and Guidelines, BMPs, and site-specific mitigation measures. Under the Selected Alternative, recreational fishing opportunities will remain essentially the same as the current condition because aquatic habitats are protected through implementation of Region 10 BMPs (12.6, 12.6a, and 13.16).

Executive Order 13007 (Indian Sacred Sites)

Executive Order 13007, Indian Sacred Sites, provides presidential direction to federal agencies to give consideration to the protection of American Indian sacred sites and allow access where feasible. In a government-to-government relationship, the tribal government is responsible for notifying the agency of the existence of a sacred site. A sacred site is defined as a site that has sacred significance due to established religious beliefs or ceremonial uses, and which has a specific, discrete, and delineated location that has been identified by the tribe. Tribal governments or their authorized representatives have not identified any specific sacred site locations in the project area.

Executive Order 13112 (Invasive Species)

Executive Order 13112 requires federal agencies (in part) to evaluate whether the proposed activities will affect the status of invasive species, and to not carry out activities that promote the introduction or spread of invasive species unless the agency has determined that the benefits of such action outweigh the potential harm caused by invasive species, and that all feasible and prudent measure to minimize risk of harm will be taken in conjunction with the actions. A risk assessment for invasive plant spread was conducted and determined the risk would be low (Section 3.6.3.2). An Invasive Plant Management Plan will be prepared and implemented. The Selected Alternative implements specific measures to minimize the introduction and spread of invasive species.

Executive Order 13175 (Consultation and Coordination with Tribal Governments)

Executive Order 13175 directs federal agencies to respect tribal self-government, sovereignty, and tribal rights, and to engage in regular and meaningful government-to-government consultation with

tribes on proposed actions with tribal implications. The Forest Service conducted government-to-government consultation with Chilkoot Indian Association, Central Council Tlingit & Haida Indian Tribes of Alaska, Douglas Indian Association, and government-to-corporation consultation with Alaska Native Corporations including Klukwan, Inc., Goldbelt, Inc., and Sealaska Corporation. There are no known Traditional Cultural Properties within the area of potential effect, and none have been identified in Forest Service consultation with federally recognized Native American tribes or other interested parties (Section 3.20.2). Tribal governments and organizations did not express any concerns about the project during initial consultation and discussions. Regular consultation will continue during the planning of this proposed project and beyond. Tribal consultation does not imply that the tribes endorse the Selected Alternative or any of the alternatives.

Executive Order 13186 (Migratory Birds)

The Migratory Bird Treaty Act of 1918 (amended in 1936 and 1972) prohibits the taking of migratory birds, unless authorized by the Secretary of Interior. The decision will not have a significant direct, indirect, or cumulative effect on any migratory bird species in the project area. The project would continue to comply with the requirements of the Migratory Bird Treaty Act; therefore, no population-level effects to migratory birds are anticipated.

Executive Order 13443 (Hunting Heritage and Wildlife Conservation)

Executive Order 13443 directs federal agencies to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat. The analysis considered and disclosed the effects on hunting activities. The Selected Alternative will maintain current hunting opportunities by adhering to the Forest Plan Standards and Guidelines that maintain habitat for game species.

Executive Order 13990 (Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis)

Pursuant to Executive Order 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, CEQ rescinded its 2019 Draft NEPA Guidance on Consideration of Greenhouse Gas Emissions and is reviewing, for revision and update, the 2016 Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews (CEQ, 2016).

Federal and State Permits

Federal permits necessary to implement the authorized activities are listed at the end of Chapter 1 in the FSEIS. See also the Clean Water Act and Clean Air Act discussions above. Existing State permits include:

- Lower Slate Lake Tailings Dam (NID ID# AK00308)
- Stormwater Discharges Associated with Industrial Activity (AKROAA50)
- APDES permit (AK0050571)
- Multi-Sector General Permit Activity (AKR06AA50)
- Waste Management Permit (2013DB0002)
- ADF&G Fish Habitat Permits (under Alaska Statute 16.05.841-871)

Administrative Review – Opportunity to Object

The Draft ROD was published at the same time as the FSEIS in July 2021 and provided direction for anyone wishing to object to the draft decision. Four objections were received.

The Objection Reviewing Officer held a resolution meeting with the objectors on October 7, 2021. The outcome of the discussions in the resolution meeting and a review of the objections was a letter of instruction issued to me by the Reviewing Officer dated November 8, 2021, to clarify some of the discussion in the FSEIS and Final ROD so that the effects of the Selected Alternative are clearly and concisely summarized and articulated, ensure that the project is implemented in a manner consistent with law, regulation, and policy, and to better explain the rationale for the Selected Alternative. My response to the Reviewing Officer's instructions is attached to this ROD as Exhibit R-1. The Reviewing Officer's response indicated I could move forward with this decision to authorize the Selected Alternative once I have complied with these instructions (39 CFR 218.12(b)).

Implementation

This signed Final ROD indicates a phased implementation which may begin, as described below.

Implementation of the Selected Alternative will be in two phases.

- The first phase of approval will allow construction/ expansion of the WRS facilities to begin so that operations can continue. I will approve this phase as soon as Coeur Alaska has incorporated the related mitigation measures and monitoring into POA 1, complied with any other instructions I may have related to the WRS facilities, and posted the sufficient financial guarantee for the additional associated disturbance.
- The second phase of approval will include construction of the Stage 4 impoundment and back dam. I will approve the second phase after Coeur Alaska has provided, to the satisfaction of the Forest Service and the satisfaction of the ADNR Alaska Dam Safety Office and their dam safety guidelines (ADNR, 2017), the following:
 - A conceptual closure design for the impoundment, and an associated long-term closure, water management, and reclamation plan, that meets the reclamation goals stated in the 2018 Reclamation and Closure Plan (Section 2.1 and Table 2.2-1); and
 - An update of the hydrologic modeling of the TTF and the mean annual precipitation used in these and other plans/designs.

Adjustments are expected during final engineering design for the purpose of improving boundaries or project facility locations and to better meet on-site resource management objectives. These adjustments are not expected to represent substantial changes to environmental concerns or require additional NEPA analysis. However, changes made during implementation will be reviewed, documented, and approved in accordance with Forest Service Handbook 1909.15 Chapter 18.

Contact Information

For additional information concerning this decision, contact: Matthew Reece, Minerals Program Manager, Tongass National Forest at matthew.a.reece@usda.gov or (907) 789-6274.

Responsible Official



M. EARL STEWART
Forest Supervisor
Tongass National Forest



Date

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Exhibit R-1. Response to Objection

Exhibit R-1

Response to the Reviewing Officers Instructions for Required Actions for the Supplemental Environmental Impact Statement Plan of Operations Amendment 1 for the Kensington Mine Project Record of Decision

RESULTS OF THE OBJECTION PROCESS PURSUANT TO 36 CFR 218

The Draft ROD was published at the same time as the FSEIS in July 2021 with instructions for anyone wishing to object to the draft decision. Individuals or organizations who submitted specific written comments regarding the proposed project either during scoping or other designated public comment periods in accordance with 36 CFR 218.5(a) could file objections. Four objections were received during the objection filing period from entities with the required standing to object. The objection letters are available for review online at <https://www.fs.usda.gov/project/?project=55533>.

OBJECTION RESOLUTION MEETING

The Reviewing Officer held a resolution meeting with the objectors on October 7, 2021 to discuss the issues raised in the objections. All objectors were given an opportunity to present their concerns. While resolution was not met on all objection issues, the meeting helped clarify the issues and the objectors are encouraged to continue discussion with the Forest Service as the project is implemented.

WRITTEN RESPONSE TO OBJECTIONS AND INSTRUCTIONS TO FOREST

On November 8, 2021, after a deliberative and extensive review of concerns raised and remedies suggested by objectors during the resolution meeting, the Reviewing Officer issued written responses to the objectors responding to their objection points, summarized as issue statements. The response letter is available online at: [KM_C458-20211109124525 \(usda.gov\)](https://www.usda.gov/press-releases/2021/11/09/124525). The outcome of the objection review also included a letter of instruction issued to me by the Regional Forester to clarify some of the discussion in the FSEIS and Final ROD so that the effects of the Selected Alternative are clearly and concisely summarized and articulated, ensure that the project is implemented in a manner consistent with law, regulation, and policy, and to better explain the rationale for the Selected Alternative. This direction has been incorporated in the decision.

Specifically, the objection response directed me to complete the following items before signing the Final ROD for the Plan of Operations Amendment 1 for the Kensington Mine Project:

Instruction: 1) Implement the Selected Alternative in phases. The first phase of approval will allow construction/ expansion of the waste rock storage (WRS) facilities to begin so that operations can continue. You may proceed with approval of this phase as soon as Coeur Alaska has incorporated the related mitigation measures and monitoring into the POA-1, complied with any other instructions you may have related to the WRS facilities, and posted the sufficient financial guarantee for the additional associated disturbance. The second phase of approval will include construction of the Stage 4 impoundment and back dam. You may approve this second phase after Coeur Alaska has provided, to your satisfaction and the satisfaction of the State of Alaska, Department of Natural Resources (ADNR) Alaska Dam Safety Office, the following:

- *A conceptual closure design for the impoundment, and an associated long-term closure, water management, and reclamation plan, that meets the reclamation goals stated in the 2018 Reclamation and Closure plan [Section 2.1 and Table 2.2-1]; and*
- *An update of the hydrologic modelling of the tailings treatment facility (TTF) and the mean annual precipitation used in these and other plans/designs.*

Tongass Response: Text has been added into the implementation section of the Final ROD explaining the phased decision requirements.

2) Update citations in the FSEIS and Final ROD to refer to the 2017 version of the Alaska Dam Safety Office's Guidelines for Cooperation with the Alaska Dam Safety Program for consistency, and include the 2017 version of the guidelines in the project record.

Tongass Response: The references section of the Final ROD was reviewed and corrected. In addition, an Errata to the FSEIS was prepared and includes updates to a number of references that were inadvertently left out of the references cited section due to a software issue; however, they were part of the Project Record.

3) Clarify in the FSEIS that the design of the back dam in the Selected Alternative is conceptual.

Tongass Response: The following has been added to the Errata to the FSEIS: *In response to the Objection Reviewing Officer to clarify in the FSEIS that the design of the back dam in the Selected Alternative is conceptual, the following sentence should be inserted at the end of Section 2.3.1.1.*

“The Back Dam is considered conceptual and may be refined through final design; and is subject to ADNR Dam Safety Program review and approval.”

In addition, the title for Figure 2.3-3 should read “Conceptual” Cross-Section of the Stage 4 Back Dam.

ISSUE 1—MONITORING OF AND COMPLIANCE WITH MITIGATION MEASURES, BMPS, AND TONGASS FOREST PLAN DIRECTION, ESPECIALLY RELATED TO WATER QUALITY AND FISH HABITAT.

1) Ensure that an updated Freshwater Monitoring Plan (FWMP) that is in alignment with the extended activities of the Selected Alternative is included in the amended Plan of Operations and in the project record.

Tongass Response: Text has been added to the Monitoring Section of the Final ROD to describe how the FWMP will be updated.

2) Require Coeur Alaska, through a third-party consultant, to conduct an Ecological Risk Assessment to include a comprehensive review of all available data (from baseline and throughout operations) from the FWMP, Alaska Pollutant Discharge Elimination System (ADPES), and biomonitoring programs, as well as any other potentially relevant data, to evaluate the effects of mine activities on environmental receptors. This Assessment should be completed within two years, with the draft and final report to be made available to the Forest Service, appropriate State of Alaska agencies, and to the public.

Tongass Response: Text has been added to the Monitoring Section of the Final ROD to require Coeur Alaska to conduct an Ecological Risk Assessment within two years from the date of the Final ROD approval.

3) Engage with relevant forest and regional program specialists, and with the State of Alaska, Department of Environmental Conservation, and other State agencies, as appropriate, to

conduct a targeted review of the FWMP for the mine and update the FWMP in accordance with that review. The updated FWMP should be informed by the Ecological Risk Assessment discussed above and completed as soon as practicable after that Assessment is complete, included in the amended Plan of Operations, and available for public inspection as part of the project record.

Tongass Response: Text has been added to the Monitoring Section of the Final ROD as well as in the Freshwater Resources section of Table A-1 in Attachment A and describes that the FWMP may require updating based on the results of the Ecological Risk Assessment.

- 4) *Review any inconsistencies between the 2014 and 2018 best management practices (BMP) reviews, monthly inspections, and monthly inspection and BMP review protocols to determine if additional inspection items and/or methods are needed. The Final ROD should include a discussion of the results of this review and any action taken to update the inspection protocols and BMP review procedures.*

Tongass Response: Response has been provided under the Monitoring section in the Final ROD. Protocols for best management practices (BMP) reviews, and regular monthly inspections conducted by the Tongass Minerals Program, were reviewed for opportunities to improve, and integrate the two processes. BMP reviews were completed in 2014 and 2018, and a follow up to the 2014 review was completed in 2015. However, action items identified in the 2018 review were not followed up in a subsequent review. To address this inconsistency, when BMP reviews are performed, recommendations and action items from the report will be integrated into regular monthly inspections performed by Tongass minerals staff. These items will be itemized and tracked until a satisfactory resolution is documented in an inspection report. To inform and guide BMP reviews and regular inspections, an annual report summarizing action items will be produced and entered into the project file. In addition, the Tongass minerals staff will conduct quarterly inspections focused on specific BMP monitoring. This requirement has been added to Table 2 in the Final ROD as well.

- 5) *Document in the Final ROD what stream survey work is yet to be completed, and when that work will be completed. No ground disturbing activities should be authorized until the stream survey work is complete. If the stream surveys lead to any modifications to the WRS sites as a result of this effort, you must determine if the environmental analysis and documentation for the project needs to be corrected, supplemented, or revised per FSH 1909.15, Chapter 18.*

Tongass Response: Text has been added to the Mitigation Section of the Final ROD. Additional stream survey information was gathered November 2021 and incorporated under the Mitigation section indicating the extent of fish-bearing streams in the vicinity of the Comet WRS expansion area and the new Pipeline WRS area. The Forest Service Interdisciplinary Team reviewed and cataloged the new stream information and did not believe that supplemental information was required above what is disclosed in this Final ROD. Additional field verification in the area in and around the growth media stockpile boundary will be conducted prior to implementation. If additional streams are located, the Forest Service will review whether the changes are within the scope of the FSEIS and/or whether the project would need to be corrected, supplemented, or revised per FSH 1909.15, Chapter 18. Results of the interdisciplinary review will be documented in the Project file.

- 6) *Require Coeur Alaska to replace existing culverts that do not meet aquatic organism passage requirements (AOP) during the initial construction notice to proceed as opposed to waiting until closure as proposed under the POA-1, and ensure that any new structures associated with new roads be designed and constructed to provide for migration or other movement of aquatic life, in accordance with applicable BMPs.*

Tongass Response: Text has been added to the Final ROD under the Selected Alternative section to clarify that three culverts located at Spectacle Creek, Fat Rat, and South Creek will be replaced during Phase 1 of the Decision and the Forest Service will work with Coeur Alaska to identify any other existing culverts not meeting AOP requirements and prioritize them for replacement. This is also noted in Table A-1 of Attachment A. Final AOP designs will be reviewed and approved by Forest Service fish biologists and engineers, to ensure that any new structures associated with new roads be designed and constructed to provide for migration or other movement of aquatic life, in accordance with applicable BMPs as described in Section 3.5.3.2 in the FSEIS.

- 7) *Tabulate any residual unavoidable effects on wetlands and streams from the Selected Alternative and compare to proposed offsets sufficient to determine if additional mitigation of wetland or stream loss may be needed, and document this determination in the Final ROD.*

Tongass Response: Text has been added to the Mitigation Section (Table 1) of the Final ROD.

- 8) *More clearly explain the fish habitat enhancement component of the Selected Alternative, including the rationale for including it, how it responds to the purpose and need for the project, and how it mitigates effects.*

Tongass Response: Text has been added to the Final ROD under How the Selected Alternative Meets the Purpose and Need and Impacts on the Aquatic Environment sections.

ISSUE 2—CLIMATE CHANGE.

- 1) *Add CEQ 2016 as a general reference cited in the Final ROD, with a basic discussion of how it was considered and how the project complies with the guidance.*

Tongass Response: Text has been added to the section of the Final ROD “Executive Order”.

- 2) *Add discussion of how the project will comply with E.O. 13690 to the Final ROD.*

Tongass Response: Text has been added to the section of the Final ROD “Other Findings Required by Law and Regulation.”

- 3) *Add climate change references that are cited in the FSEIS, such as Shanley and Albert 2014 and Shanley et al. 2015, to the references cited section of the FSEIS. Add EcoAdapt 2014 to the references cited section of the FSEIS (with full title), and clarify in the Final ROD what it is and how it has been incorporated by reference in the FSEIS.*

Tongass Response: Text has been added to a new Climate Change subsection under the “Other Factors Considered” section of the Final ROD.

- 4) *Do a thorough review of the references cited in the FSEIS to ensure they are appropriately included in the references cited section of the FSEIS and in the project record.*

Tongass Response: The FSEIS errata included a supplemental list of references and made some minor corrections. The reference to the Alaska Dam Safety guidelines was corrected in the FSEIS errata. References were added to the project record as needed.

ISSUE 3—RANGE OF ALTERNATIVES AND CUMULATIVE EFFECTS.

- 1) *Correct the FSEIS and ROD to reference the 1978 CEQ NEPA regulations rather than the 2020 NEPA regulations. The FSEIS was prepared under the 1978 regulations, rather than the 2020 revised regulations since project planning was initiated prior to September 14, 2020. The Final ROD should include a brief explanation of those changes, along with a determination on consistency with the 1978 regulations.*

Tongass Response: The FSEIS erroneously listed the date of the CEQ regulations as 2020;

Plan of Operations Amendment 1 for the Kensington Mine

however, the section citations were for the 1978 regulations except in the Response to Comments. The errata document corrects the citation and the erroneous section reference in the response to comments. The CEQ regulations were not cited in the Draft ROD.

- 2) *Better explain the decision to be made in the Final ROD, including a brief discussion of mining law and the decision space afforded the Responsible Official under mining law and regulations.*

Tongass Response: Text has been added in the Final ROD to discuss past NEPA actions and analysis that were reviewed as part of this Decision, and consistency with Laws and Regulations, including the General Mining Law of 1872.

- 3) *Include in the Final ROD a discussion on how the dry stack alternative was evaluated in the 1997 and 2004 NEPA documents that are incorporated by reference, and clarify that it was not analyzed in detail again for all the reasons stated in the 2004 ROD. This discussion should address the fact that since the 2004 decision has been partly implemented, expanding the disturbance footprint to include Comet Beach would create additional adverse effects, rather than minimizing them.*

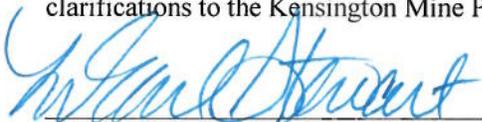
Tongass Response: Text has been added to the past NEPA bullets describing the decision points and analysis.

- 4) *Clarify and/or better explain the rationale for the Selected Alternative in the Final ROD, including the reasons why environmentally beneficial components of the Selected Alternative could not be incorporated in another alternative.*

Tongass Response: Additional text has been included in the Rationale for the Decision section of the Final ROD to provide greater detail regarding the rationale for my decision. This includes how the Selected Alternative design and its closure plan better addresses long-term containment of acid rock drainage through water cover, eliminates the need to maintain the Upper Slate Lake bypass pipe in perpetuity to allow for a better functioning lake system at closure and provides additional opportunities for fish habitat enhancement that was not possible under the currently approved closure plan or under the other action alternatives because there would not be sufficient surface water to implement.

SUMMARY

In response to the Reviewing Officer's letter and instructions, I have completed these updates and clarifications to the Kensington Mine Project Record of Decision.



M. EARL STEWART
Forest Supervisor
Tongass National Forest


Date

Attachment A. Required Mitigation, Conservation, and Monitoring Measures

Table A-1. Required Mitigation, Conservation, and Monitoring Measures

Activity / Resource	Measure
Mitigation and Conservation	
Reclamation and Closure	The Reclamation and Closure Plan will be updated to be consistent with the Final ROD. Reclamation and closure plans must be reviewed at least every 5 years. In December 2018, the ADNR extended the approval of the 2013 Reclamation and Closure Plan until December 31, 2021 (ADNR, 2018). Additional detail on closure and reclamation of all the facilities is discussed in Appendix E of POA 1.
Reclamation and Closure	Final reclamation will involve physical reclamation and water management. Reclamation of disturbed areas no longer involved in mining operations (the majority) will occur during the 2 years after cessation of mining. Processing operations may lag behind mining. The schedule to complete reclamation will depend on meeting post-reclamation water quality objectives. As physical reclamation activities are completed, and erosion and sediment from reclamation construction is controlled, stormwater management practices will be reviewed and discontinued where appropriate. Final contouring of nonessential roads, culverts, borrow areas, WRS, and the TTF margin area will likely occur during the first year of reclamation construction. As reclamation is completed and objectives are met, final reclamation of access routes may occur.
Reclamation and Closure	WRS will be regraded to 2.0 feet horizontal to 1 foot vertical (2H:1V) at closure. A minimum thickness of 12 inches of growth media cover is planned and followed by reseeding.
Reclamation and Closure	Any remaining equipment or infrastructure required for post-closure monitoring and maintenance activities will be located on land controlled by the private landowner.
TTF Reclamation and Closure	Following the end of active mining operations, the working water cover will be treated using the TTF WTP, cycling water to and from the TTF until incoming water meets ADEC 18 Alaska Administrative Code (AAC) 70 WQS, as well as any other site-specific criteria in place at the time of closure. After the WTP influent meets WQS for four weeks and upon agency approval, operation of the WTP will be discontinued and the WTP will remain on operational standby for 18 months. An additional water cover will be provided by flooding the tailings and native soils. After 18 months, the treatment plant and diversion pipeline will be removed if the Forest Service and ADEC concur that future water treatment will not be required.
TTF Reclamation and Closure	An estimated 74.3 acres will be reclaimed as open water or wetland. This area includes the wetland water less than 6.6 feet deep. The deep-water area of the lake is estimated as 58.3 acres and consists of the portion of the lake greater than 6.6 feet deep.
TTF Reclamation and Closure	The sequence of reclamation and closure activities in the TTF area will begin with post-operations water treatment. Following treatment, the remaining facilities will be removed. The following components of the tailings distribution system will also be decommissioned: <ul style="list-style-type: none"> • Removal of the reclaim pipeline; • Removal of the tailings delivery system pipeline; • Removal of the tailings floating barge; and • Removal of the tailings lake turbidity barrier.
TTF Reclamation and Closure	Reestablishment of flow from Upper Slate Lake through the TTF will not occur until water quality objectives are met. Influent to the WTP will be monitored to determine if the TTF Lake water meets the WQS in AAC 70, including any site-specific criteria. Following the end of active mining operations, the working water cover will be treated using the TTF WTP, cycling water to and from the TTF until influent water quality meets ADEC 18 AAC 70 standards. At a WTP treatment rate of 1,500 gallons per minute, one volume of the TTF working water cover will be treated every 100 days. The Forest Service and ADEC will decide whether to discontinue water treatment after WQS are met for 4 weeks. The treatment plant will remain in place for 18 months while water quality in the TTF is monitored. Final decommissioning of the TTF WTP will

Plan of Operations Amendment 1 for the Kensington Mine

Activity / Resource	Measure
	only occur with approval by the Forest Service and ADEC based on water quality monitoring. Monitoring will continue for at least 30 years (Section 2.2.8).
TTF Reclamation and Closure	<p>The water level in the restored lake will need to be raised to the ultimate spillway pool elevation (732 feet AMSL) prior to removal of the Slate Creek Diversion system in order to maintain flow to Slate Creek below the Stage 4 Dam. Once flow through the lake to Slate Creek occurs, the Slate Creek Diversion system can be removed and the remaining areas reclaimed. The reconstructed channel located below the diversion structure will be flooded during lake filling. Removal of the diversion system will include the following:</p> <ul style="list-style-type: none"> • Removal of the Slate Creek Diversion inlet structure; • Removal of the Slate Creek Diversion piping; and • Removal of the Slate Creek Diversion plunge pool.
TTF Reclamation and Closure	Once the final post-closure water level has been established, planting of rooted aquatic species may begin. The dominant rooted aquatic plants will be water lily (<i>Nuphar polysepalum</i>) and pondweed (<i>Potamogeton natans</i>).
TTF Reclamation and Closure	Areas around the TTF that will not be submerged, including the final Stage 4 Dam surface, will be reclaimed by placing growth media where there is no vegetation growth and seeding.
Reclamation Success - Revegetation	The test plot site was selected to assess typical physical conditions, material characteristics, and other parameters representative of critical conditions throughout the mine site. The results will be used to optimize the revegetation methods. Coeur Alaska is working with the Forest Service and ADNR on how to proceed given the recommendations of the study require additional discussion.
Post-Closure Monitoring and Maintenance	<p>Post-closure monitoring includes reclamation success monitoring and maintenance, water quality monitoring and ecological monitoring of the TTF for 30 years beginning when active water treatment is discontinued. Monitoring of reclamation success will occur in all reclaimed mine areas. Water quality monitoring will include site-wide monitoring of surface water, TTF water quality, and the Comet WTP wetland site. Ecological monitoring will include monitoring of aquatic life in the TTF, benthic invertebrate community composition, sediment quality and metal toxicity, and periphyton biomass and community composition within affected watersheds (i.e., Slate, Johnson, and Sherman Creeks). The following post-closure monitoring activities will be completed during the 30-year post-closure period:</p> <ul style="list-style-type: none"> • Reclamation success monitoring including stormwater inspections in reclaimed areas. Remedial work will be carried out as needed, based on site inspections; • Reclaimed areas will be evaluated to determine vegetation success and erosion and sediment control; • Water quality monitoring as required by APDES permits; • Ecological monitoring; • Dam safety inspections every 3 years, and an inspection of the Stage 3 Dam following any extreme event believed to exceed the 100-year, 24-hour storm event; • Annual dam and spillway inspection and maintenance; and • Maintenance of the physical integrity of the TTF, mine portals, and roads required for post-closure monitoring.
Acid Rock Drainage	<ul style="list-style-type: none"> • Graphitic phyllite is removed, temporarily stored, then placed underground with the paste backfill.

Plan of Operations Amendment 1 for the Kensington Mine

Activity / Resource	Measure
	<ul style="list-style-type: none"> • Seepage is collected then treated at the Seep WTP, then discharged to an infiltration gallery when testing shows that WQS are met (see Section 2.2.3). • Exposed graphitic phyllite currently covered with concrete at the TTF spillway will continue to be monitored prior to inundation. • An approved Stormwater Pollution Prevention Plan (SWPPP) is in place and will be updated, as necessary prior to construction. • BMPs control stormwater runoff and potential sediment loading to receiving water bodies in accordance with the ADEC Multi-Sector General Permit (AKR06000). • Stormwater outfalls are routinely inspected and sampled in accordance with the SWPPP and the Multi-Sector General Permit.
Freshwater Resources	<ul style="list-style-type: none"> • The FWMP will be updated to reflect the decision of the Selected Alternative and will be reviewed and approved as part of the revised Plan of Operations Amendment 1. • Coeur will provide quarterly WQ monitoring of the planned Comet WRS sediment pond water chemistry for constituents of concern to the Forest Service and ADEC, who will work collaboratively to determine whether those waters should be routed to the Comet water treatment plant for treatment and discharge under the APDES permit. • Coeur Alaska will be required to dispose of water treatment plant sludge cakes in the underground mine. Coeur Alaska, through a third-party consultant, is to conduct an Ecological Risk Assessment. This assessment should include a comprehensive review of all available data (from baseline and throughout operations) from the FWMP, APDES, and biomonitoring programs, as well as any other potentially relevant data, to evaluate the effects of mine activities on environmental receptors. This Assessment should be completed within two (2) years from the ROD decision date. Based on the results, the mine will update the FWMP as necessary. • Provide secondary containment around all fuel storage and transfer points. • Provide double-walled tailings pipeline from the mill to the TTF. • Store spill cleanup equipment at Comet Beach, Slate Creek Cove, the process area, along access roads, and at any fueling sites. • For instream bridge construction work, provide for bypass around construction, install silt fence, and minimize streambed traffic. • For instream construction work, use fill material that is clean of silt, clays, and organic materials. • Any freshwater instream construction work will follow established fish work windows outlined in ADF&G fish habitat permits. • Continue to provide safe and efficient fish passage from above the intake dam to East Fork Slate Creek. • Meet instream flow requirements in all streams; limit intake as necessary; and use mine water and reclaimed tailings water as primary water supply when feasible. • Develop downstream fish passage past the Mid-Lake Creek intake structure and take measures to reestablish benthic and fish populations in Lower Slate Lake after closure. • Culverts at Spectacle Creek, Fat Rat, and South Creek will be replaced during the initial construction notice to proceed as opposed to waiting until closure as proposed under POA 1, and ensure that any new structures associated with new roads be

Plan of Operations Amendment 1 for the Kensington Mine

Activity / Resource	Measure
	<p>designed and constructed to provide for fish passage and migration or other movement of aquatic life, in accordance with applicable BMPs</p> <ul style="list-style-type: none"> • Coeur Alaska will work with the Forest Service to identify any other existing culverts not meeting AOP requirements and prioritize them for replacement. • Develop and implement a reclamation plan to restore Dolly Varden char and other aquatic resources in Lower Slate Lake after closure. • Freshwater quality monitoring will be defined by the final APDES permit, the SWPPP, and the overall Forest Plan Monitoring Program as appropriate for Kensington mine. • An extensive freshwater quality monitoring program is also required as part of the APDES program including fish populations, macro-invertebrate, sediment quality, etc. • Annually photograph stream habitat types (e.g., riffle, pool, substrate size and vegetation/woody debris) at select photo observation points on Sherman, Johnson, and Slate Creeks. • Aquatic resource monitoring programs include Dolly Varden char spawning surveys and spawning salmon escapement survey conducted annually. • Within in the growth media stockpile area below the Comet WRS, conduct stream surveys in spring 2022 to confirm no impacts to potential fish-bearing streams. • Pink, chum, and coho salmon returning to Sherman, Johnson, and Slate Creeks to spawn are counted during weekly surveys conducted throughout the peak escapement period for each species (early-August through early-September for pink and chum salmon; late-September through mid-October for coho salmon). Stream surveys are conducted by foot, except for Johnson Creek pink and chum salmon surveys, which are conducted via aerial survey methods. • Compensatory mitigation requirements related to streams will be developed as described below under wetlands.
Heritage/Cultural Resources	<p>A Programmatic Agreement between Coeur Alaska, the SHPO, the Advisory Council on Historic Preservation, and the Forest Service is in place. The agreement includes a Mitigation and Monitoring Plan for the mitigation of any adverse effects on historic properties, including avoidance and on-site archaeological monitoring during construction and operation.</p>
Soil, Vegetation, Wildlife and Wetlands	<ul style="list-style-type: none"> • Compensatory mitigation projects will be developed in coordination with the Forest Service, Coeur Alaska, and cooperating agencies using the process outlined in this ROD and may include the establishment, restoration, enhancement, and/or the preservation of aquatic resources implemented through a permittee-responsible mitigation plan or an in-lieu-fee program. Implementation of any mitigation projects will require Forest Service approval to ensure compliance with the Forest Plan Forest-wide Standards and Guidelines for Wetlands, Riparian, and Fish, and to apply BMPs to all land-disturbing activities as a process to protect the beneficial uses of water from non-point sources of pollution. • Plants native to the area and originating near the project area will be used for reclamation to the extent possible. • Drainage patterns, water quality, and water quantity will be maintained to the extent possible to support aquatic plant populations and habitats. • Reclamation objectives will be met by establishing 75 percent live vegetation cover on reclaimed areas.

Activity / Resource	Measure
	<ul style="list-style-type: none"> • Growth media will cover an average depth of 1 foot over disturbed areas that receive cover soil. • All seed mix will be state-certified weed-free and utilize a Forest Service recommended seed mix. • An Invasive Plant Management Plan will be updated prior to implementation of the Selected Alternative. • Complete rare plant surveys to relocate pink mountain heather or other rare plant species is required within the proposed disturbance footprints for the new Pipeline Road and Comet expansion WRS areas prior to any construction or expansion activities. Forest Plan Standards and Guidelines for management of rare plants will be followed to avoid, minimize, or mitigate adverse effects. • Appropriate techniques will be used to resolve invasive weed infestations, based on the weed species, and include effectiveness monitoring and follow-up treatments until invasive weeds are controlled. Herbicide may be used upon approval by the Forest Service and applied by a licensed applicator. • Prohibit employees from hunting, trapping, and harassing wildlife on the project area. • Establish buffer zones around bald eagle and goshawk nests and implement nesting season timing restrictions for helicopter use or blasting near bald eagle sites (USFWS, 2007). • Implement a garbage management plan to limit interaction with resident bears. • Maintain speed limits on project roads to minimize the risk of vehicle collisions with wildlife. • Conduct ongoing monitoring of wildlife in compliance with the Kensington Project Terrestrial Wildlife Monitoring Plan (Coeur Alaska, 2019). • Monitoring for mountain goats will continue at the mine site (as designed and implemented in collaboration with the USFWS and the ADF&G). • Survey Sherman, Johnson, and Slate Creeks under APDES permit AK0050571 including aquatic habitat and biological and fish resources. • Develop and implement required spill prevention plans and facility response plans and train a spill response team. • Ready the deployment boom for all fuel transfers taking place at the Comet Beach facility and comply with U.S. Coast Guard inspection requirements. • No fueling at Slate Creek Cove except in emergency situations. • Ensure that all vessels follow designated routes and regular schedules. • Maintain 100 yards between vessels and humpback whales and other mammals as described under the Marine Mammal Protection Act. • Marine vessel encounters with special fish species, marine mammals, and important bird species will be recorded and reported as part of the overall monitoring plan.
<p>Marine Aquatic Resources</p>	<p>During the Eulachon spawning period (2 to 3 weeks between April 15 and May 15):</p> <ul style="list-style-type: none"> • Limit the number of crew vessel transits to three round trips per day, except during emergencies.

Activity / Resource	Measure
Scenery	<ul style="list-style-type: none"> • Limit barging and curtail vessel shipment of chemical and supplies. • Apply seed and fertilizer (as necessary) to disturbed areas to be reclaimed, including cut-and-fill embankments and roadways. Approved seed mixtures will reflect the vegetation and growth characteristics of southeast Alaska. • Locate and design tree plantings where necessary to meet the scenic integrity objectives. • Locate and design borrow pits to minimize visual impacts and retain screen trees where necessary to meet the scenic integrity objectives. • Use earth-toned colors on all building exteriors to blend with the surrounding landscape. • Design structures to repeat forms, lines, and textures that occur frequently in the surrounding landscape. • Revegetate the external tailings slopes and borrow areas as soon as practicable. • Direct exterior lighting inward, where possible, to reduce glare and visual impacts. • Use water to control fugitive dust.
On-site Spill Prevention and Response	Maintain spill response and facility response plans.
Socioeconomics	Maximize local hire policies for construction and operations.
Dam Safety	Establish an Independent Engineering Review Board to provide ongoing independent review of the design, construction, operation, water and mass balance, maintenance, monitoring, performance, and risk management of the TTF and dams. The IERB will consist of qualified third-party technical experts who are not, and have not been, directly involved with the design or operation of Coeur Alaska's TTF. The expertise of the IERB members shall reflect the range of issues relevant to the facility and its context and the complexity of these issues.
Monitoring	
BMP Reviews and Monthly Inspection	Periodic BMP reviews will be performed during the regular monthly inspections by Tongass minerals staff and any recommendations and/or action items from the report will be itemized and tracked until a satisfactory resolution is documented in an inspection report. To inform and guide BMP reviews and regular inspections, an annual report summarizing action items will be produced and entered into the project record. This report will tabulate documented action items from the preceding year and how they were resolved. If the data in this report reveals trends or patterns warranting additional attention, targeted inspections focusing on those issues will be conducted until a satisfactory resolution is documented.
Reclamation Success Monitoring	Reclamation success monitoring will evaluate site stability and vegetation cover. The stability evaluation will monitor for soil erosion and sediment discharge. Inspections and maintenance are planned in years 1, 2, 5, and 10 post-closure. Each year, visual surveys will evaluate revegetation success criteria until each area is determined to have achieved final stabilization. Areas identified that require maintenance activities will be reevaluated during the following inspection cycle.
Reclamation Success Monitoring	For 2 years during active reclamation, stormwater maintenance will focus on areas where surface reclamation has occurred. Reseeding and other stabilization BMPs will be used to achieve final stabilization where reclamation grading has been completed. New vegetation is expected to establish rapidly. Any problem areas will be actively managed to achieve final stabilization as soon as practicable.
Reclamation Success Monitoring	Once vegetation and surface stability reclamation success criteria are met, the stormwater permit for reclamation construction activities will be terminated. Monitoring will be modified to remove stabilized sites as stabilization criteria are met.

Plan of Operations Amendment 1 for the Kensington Mine

Activity / Resource	Measure
Reclamation Success Monitoring	Results from monitoring will be summarized in the annual report, which will tabulate monitoring results against reclamation success criteria.
Long-Term Care and Maintenance and Dam Safety Inspections	Annual Stage 4 Dam and spillway inspection and maintenance will include brush/shrub, tree, and debris removal from the Dam and spillway and will be completed by two laborers with appropriate equipment for cutting and removing brush, debris, and small trees from the Dam and spillway.
Long-Term Care and Maintenance and Dam Safety Inspections	Long-term care and maintenance will consist of dam safety inspections and annual inspection and maintenance of the Stage 4 Dam and spillway in perpetuity. Dam inspections will be performed every 3 years as required by the ADNR Dam Safety Permit, Dam Safety Program in accordance with the Lower Slate Lake Tailings Dam Safety Permit Certificate of Approval for Dam Operation (NID ID# AK00308) (ADNR, 2019). Coeur Alaska is responsible for providing funds for completing the inspections during the 30-year post-closure monitoring period described in Section 2.2.8. After 30 years, the inspections will be funded through a reclamation trust fund established by Coeur Alaska. The funds for long-term monitoring costs, however, will still be guaranteed by establishment of a trust agreement. Special event inspections included in the long-term care and maintenance plan will include one inspection by a qualified engineer in the event of a large earthquake, and one inspection in response to an extreme precipitation event such as a 100-year storm during the post-closure period. A budget is provided in the 2013 Reclamation and Closure Plan to complete minor maintenance such as removal of brush and debris from the dam and spillway and will be updated by the selection of any of the Action Alternatives to document the extent of funding and responsibility for long-term care and maintenance.
Post-Closure Monitoring and Maintenance	Monitoring of the TTF will be completed in accordance with the Ecological Monitoring Plan. Upper Slate Lake will provide Dolly Varden char (<i>Salvelinus malma</i>) to Lower Slate Lake directly once flooding results in the joining of the two lakes.
Post-Closure Monitoring and Maintenance	Post-closure monitoring includes reclamation success monitoring and maintenance, water quality monitoring, and environmental monitoring including water quality, annual road inspections, and dam inspections for an estimated 30 years, although dam safety inspections will continue indefinitely as the structure will remain a dam under the jurisdiction of the state dam inspector (ADNR). Water quality monitoring will include site-wide monitoring of surface water and groundwater, TTF water quality, APDES allocated streams, and wetland sites. Environmental monitoring will include aquatic life in the TTF, benthic invertebrate community composition, sediment quality and metal toxicity, and periphyton biomass and community composition. Reclamation success monitoring will occur in all reclaimed areas. The Forest Service will work with ADF&G to develop an effectiveness monitoring plan during final design of the fish enhancement program which will outline any requirements under the Forest Plan Monitoring Program.
Reclamation Success Monitoring	Reclamation success refers to the stabilization and establishment of new vegetation on disturbed areas. Successful revegetation may be determined three years after the final application of seed and fertilizer. Bond release may occur on each facility after the requirements of the approved Reclamation and Closure Plan are complete and approved by the Forest Service and the requirements of 11 AAC 97.200, 11 AAC 97.220, and 11 AAC 97.240 have been met. Phased bond release is based upon successful reclamation criteria achieved at each facility or parcel requested. The Forest Service will determine if reclamation criteria are met and funds may be released if sufficient funds remain in the bond to complete all necessary actions in the approved Reclamation and Closure Plan (Appendix E of POA 1).
Reclamation Success Monitoring	Most areas will become stabilized and establish new vegetation within several years. BMPs will focus on areas identified during the monitoring activities. Post-closure reclamation activities consist of maintenance until reclamation and closure performance standards are achieved. Post-closure reclamation will focus on erosion and sediment controls, and stabilization of reclaimed areas. BMPs will be maintained for management of surface runoff on reclaimed areas to meet requirements of the ADEC and any APDES permits. Post-closure monitoring is expected to be required for 30 years, it will be regularly reviewed, and reclamation progress may result in a reduction or extension of the monitoring period upon approval. Results will be submitted annually to the Forest Service and state agencies.

Plan of Operations Amendment 1 for the Kensington Mine

Activity / Resource	Measure
Stormwater	The current SWPPP will be maintained and/or updated as necessary to comply with all permits.
Water Quality Monitoring	Quarterly monitoring of proposed Comet WRS sediment pond for nitrate, sulfate, and TDS
Water Quality Monitoring	Post-closure monitoring includes specific plans, including surface water quality related to non-point source discharges as outlined (Golder Associates, 2017).
Water Quality Monitoring	Discharge from point sources including the Comet WTPs and the TTF WTP are regulated in APDES Discharge Permit AK0050571, which will be subject to renewal in 2022 and periodically thereafter.
TTF Environmental Monitoring	The TTF and other receiving waters will require post-closure environmental monitoring. Environmental monitoring at the TTF is presented in detail in the TTF Ecological Monitoring Plan included in Appendix D of POA 1 and will be updated as necessary based on review of a completed Ecological Risk Assessment.
Wetland Monitoring	The wetlands created from the reclamation of the Comet WTP and pond will be monitored quarterly in years 1 and 2 and annually in years 5, 10, 15, 20, and 30 post-closure. Water quality samples will be collected to determine the health of the aquatic life habitat. Wetland function will be assessed and recorded to track progression of the wetland area to a functional system.

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