



Mr. Matthew Reece  
Project Manager  
Attn: Kensington POA 1 DSEIS Comments  
Tongass National Forest, Juneau Ranger District  
8510 Mendenhall Loop Road  
Juneau, AK 99801

January 4, 2021

**Re: Coeur Alaska, Inc., Comments to U.S. Forest Service - Draft Supplemental Environmental Impact Statement for the Kensington Mine Plan of Operations Amendment 1.**

Dear Mr. Reece,

Coeur Alaska, Inc. (Coeur Alaska), as the owner and operator of the Kensington Mine (Mine), appreciates the opportunity to provide our comments on the U.S. Forest Service's (USFS) Draft Supplemental Environmental Impact Statement (DSEIS) for our Plan of Operations Amendment 1 (POA 1). Prior to and since declaring commercial production in 2010, Coeur Alaska has planned and operated the mine in a safe and responsible manner. POA 1 (the DSEIS's "Proposed Action") represents a continuation of safe and responsible mineral development that is consistent with federal laws and policies applicable to resource development in the Tongass National Forest.

Coeur Alaska commends the USFS for a professional and methodical environmental review process. During a year of many global challenges, the USFS, along with the cooperating agencies, has produced a generally high-quality DSEIS that assesses impacts in a reasonable manner overall. The USFS has also provided opportunity for public engagement by developing an online interactive map,<sup>1</sup> hosting an online public meeting on December 10, 2020, and extending the public comment period to January 4, 2021. As a result, the public has been afforded the opportunity to be fully engaged, producing an open and transparent review process. The record should reflect this process and the project has benefited from the contributions of the USFS, the cooperating agencies, and the participating public.

Coeur Alaska's comments are intended to inform preparation of a Final Supplemental Environmental Impact Statement (FSEIS). Coeur Alaska has identified six (6) particularly important, overarching comments that are discussed in the following sections. In addition, specific comments are provided in tabular format organized by section, page, and paragraph to allow the USFS to efficiently address each comment (see Attachment A).

## **1. No Significant Impacts Identified**

The DSEIS does not identify any likely significant impacts to environmental resources resulting from POA 1. Coeur Alaska agrees with these findings and commends the USFS on a thorough evaluation of potential impacts on important resources of the natural and human environment. Coeur Alaska

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<sup>1</sup> [https://www.fs.usda.gov/nfs/11558/www/nepa/110916\\_FSPLT3\\_5536449.pdf](https://www.fs.usda.gov/nfs/11558/www/nepa/110916_FSPLT3_5536449.pdf)

site for more than a decade. The primary goal of POA 1 is to design a project that maximizes the use of existing infrastructure, minimizes new disturbances, minimizes the carbon footprint, and provides a net benefit for fish and wildlife by creating more aquatic habitat. The reclamation plan further ensures Coeur Alaska's long-term commitment to environmental stewardship well after mineral extraction has concluded.

## **2. Global Comparisons of Dam Failure Risk**

Coeur Alaska recommends that the discussion of dam failure probability in Section 3.2.1.1 be revised to focus specifically on the Proposed Action and alternatives with appropriate comparisons to other facilities. Comparisons should be limited to facilities that are similar in design to the Proposed Action (structures utilizing a downstream construction method) or alternatives and those that exist under similar regulatory standards as the Proposed Action. The proposed tailings dam will be constructed and operated differently than several of the dams presented as examples, under different regulatory requirements, and using modern techniques, best management practices, and engineering tools. The examples presented in Section 3.2.1.1 represent dam failures that occurred during various stages of facility life, dams that were built using different construction techniques with different foundational characteristics, and dams that are located in areas with different climatic conditions.

The emphasis should be that facilities constructed with downstream techniques fail less than those constructed using upstream techniques and that rock fill embankments have been shown to withstand earthquakes with little damage. Both of these aspects relate directly to Kensington's Tailings Treatment Facility (TTF). Site-specific data will be used to assess the TTF dam stability supported by engineering studies such as a seismic analysis for the site.

## **3. Consistent Discussion of Dam Failure Risk**

The USFS accurately describes the probability of catastrophic dam failure as "very low" on page 3-5 of the DSEIS. In general, where dam failure potential is discussed throughout the DSEIS, the USFS correctly qualifies that risk as "very low" or "extremely unlikely." However, in many other locations of the DSEIS, this type of qualifying description is absent and leads the reader to assume a higher risk for catastrophic failure than is accurate or supported by the analysis in Section 3.2.1.1. Specific examples include, but are not limited to, much of the Summary section and Summary tables as well as Section 3.5.3.2. Coeur Alaska recommends that the USFS revisit all discussion of dam failure and ensure that appropriate qualifying language is present to avoid any interpretation by the reader that the probability of dam failure would be anything other than very low or extremely unlikely.

In addition, we recommend that the USFS segregate discussion of a tailings dam failure in its own section or within a distinct section in the discussion of impacts on each resource to place the discussion of these effects in proper context (see similar analyses of low-probability/high-consequence oil spills in the recent Willow Master Development Plan FEIS [BLM 2020], Nanushuk Project EIS [USACE 2018], or Point Thomson EIS [USACE 2012]). Organization of analysis in this manner will help convey both the likelihood and the consequences of a highly unlikely and unplanned event while allowing clear discussion of impacts that are likely to occur as a result of the proposed project. This segregation would also be appropriate for the summary tables in the Summary and Chapter 2. At present, impacts from unplanned and unlikely tailings dam releases are mixed with impacts that are likely to occur as a result of planned construction and operations.

#### **4. Filtered Tailings Facility with No Stage 4 Dam Alternative**

As described, this action alternative represents new technology for the Mine. Due to the high level of precipitation the site receives, the technological feasibility, and the potential need for intermediate storage space, it is questionable whether the alternative would allow for the year-round operations that are needed to facilitate the uninterrupted economic production of ore. Other comments on this alternative are contained within Attachment A.

#### **5. Climate Change**

During the USFS's virtual public meeting, a question was asked about how the USFS was incorporating climate change into the analysis. Coeur Alaska would like to reiterate that the design of the TTF is based on the Probable Maximum Precipitation (PMP) event developed for the project site using established and published analytical techniques. This is the maximum rainfall event that can theoretically occur, given the site conditions and historical precipitation records. In determining the flow generated by the PMP storm event, the Probable Maximum Flood (PMF) analysis assumed that the storm occurred when the maximum potential snowpack existed, and the resulting runoff was a combination of rain and snowmelt. This analysis is considered a conservative engineering approach using currently accepted techniques for estimating maximum events and the resulting runoff. The analysis meets the requirements of the State of Alaska Dam Safety Regulations and the Global Industry Standards on Tailings Management.

In order to aid the understanding of this from a design perspective, if POA 1's Stage 4 design needed to be modified to accommodate for presumably higher precipitation events than the PMP, the adjustments could be accomplished easily by adjusting the size (capacity) of features such as the spillway and diversion ditches. In the case of the diversion ditches, increasing the size of the division ditches by just a few inches substantially increases the amount of water they can pass. These design features could be included in the design now and could also be adjusted after construction and/or after closure.

#### **6. Fish Habitat Enhancements**

The Proposed Action includes fish habitat enhancements intended to promote Dolly Varden spawning. The fish habitat enhancements will include the construction of two deltas, replacement of culverts, and rerouting of Fat Rat Creek into South Creek. These measures were developed in coordination with the Alaska Department of Fish and Game and will substantially increase available Dolly Varden spawning habitat in the Slate Creek drainage. Chapter 3 of the DSEIS would benefit from additions that compare and contrast the alternatives relative to fish habitat enhancements. For example, the discussion of potential consequences from the Filtered Tailings Facility alternative does not mention the lack of fish enhancements, which is an important distinction between the Filtered Tailings Facility alternative and Proposed Action and should be mentioned in Section 3.5.3.2. In addition, the discussion of the TTF Closure with Reduced Water Alternative mentions, but does not elaborate on, the lack of fish enhancements. Any discussion of the Proposed Action's potential impacts on fish and aquatic resources should mention the substantial benefits of this program on Dolly Varden and other fish species. It will be helpful to discuss, in more detail, how all alternatives compare in terms of fish habitat and potential fish abundance, which is greatly influenced by the proposed fish habitat enhancements.

## **7. Permit Exceedances**

Section 3.3.2.1 lists past permit limit exceedances at the Kensington Mine. However, the DSEIS does not completely describe these exceedances in terms of functional impact, duration, or area. Most of the events were administrative and related to documentation, maintenance, and frequency of reporting, and none of these exceedances resulted in any environmental harm or degradation. In addition, the number of events appears inflated. For example, for a single permit exceedance of a monthly average limit, an exceedance for each day of the applicable month was counted and factored into the total. In each situation, corrective actions were taken, and subsequent measurements were well within limits. We suggest revisions to the DSEIS to accurately describe the functional effects of these exceedances and place them in the context of environmental contaminations from other industries and sources. The analysis of environmental impacts on water quality should be based on expected compliance with effluent limits in the Alaska Department of Environmental Conservation's Alaska Pollutant Discharge Elimination System (APDES) permit.

Additionally, the text indicating that exceedances of effluent limits at Outfalls 1 and 2 could occur under the No Action Alternative and all action alternatives can benefit from further acknowledgement that Coeur Alaska:

- will be required by its APDES permit to meet effluent limits and Alaska water quality standards at these outfalls;
- has existing water treatment plants and other measures that are designed and adequate to meet these requirements; and
- has existing monitoring and other best management practices that have ensured and will continue to ensure that any exceedances are quite limited and minor in both their durations and environmental effects.

Currently, in Chapter 2.5.6, there is language appropriately acknowledging that "...all alternatives require water treatment to meet Alaska water quality standards in the DSEIS," and this concept should be highlighted or emphasized in the various action alternatives sections.

## **8. Updates to Summary Section**

Coeur Alaska is providing some comments on the DSEIS's Summary section, made in the spirit of better aligning this section of the document with the contents of Chapters 1–3. As the USFS develops the FSEIS, we request attention be given to updating the Summary section in a manner that reflects the final findings included in Chapters 1–3.

## Conclusion

With attention to the issues raised in this letter (and the attachments) and other public comments, USFS is well-positioned to publish a thorough FSEIS and, subsequently, a Record of Decision. Coeur Alaska looks forward to completion of this environmental review process and to the continued operation of the Kensington Mine. If you have any questions regarding this document and the attached materials, please contact me at (907) 523-3328 or our authorized agent, Dave Casey with HDR, Inc., at (907) 644-2191.

Thank you,

*Kevin Eppers*

Kevin Eppers  
Environmental Manager

### Attachments:

Attachment A. Detailed Coeur Alaska comments in tabular format

Attachment B. Suggested revisions to Table 3.10-1

### Copy Furnished:

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**Attachment A. Coeur Alaska Inc.'s specific DSEIS comments in tabular format.**

<b>Section</b>	<b>Page Number</b>	<b>Paragraph Number on Page</b>	<b>Figure or Table Number</b>	<b>Comment</b>
Summary	2-5	NA	Table S-1	We recommend including a row describing total disturbance footprint and disturbance footprint increase relative to the No Action Alternative as shown in Tables 2.3-1 and 2.4-1.
Summary	2-5	NA	Table S-3	The first indicator under Fish and Fish Habitat should discuss lake habitat as well as stream habitat and should include a note about fish habitat enhancements under the Proposed Action.
Summary	2-5	NA	Table S-3	In the second row under "Surface Water Quality (Section 3.3)" that begins with "Changes in stream flow regimes or stream geomorphology from treated point source discharges or diversions," the TTF Closure with Reduced Water cell states: "Slightly more tailings in streams and Berners Bay than other alternatives." This appears to be inconsistent with the statement two rows above that says "2.7 million tons of tailings" and "654 acre-feet of water" could reach Berners Bay under this alternative, which is less than the 4.6 million tons of tailings and 2,194 acre-feet under the Proposed Action. Please clarify.
Summary	2-5	NA	Table S-3	Under "Fish and Fish Habitat (Section 3.5)," in the first row, which begins: "Change in short- and long-term integrity of freshwater fish habitat..." the entry under "Proposed Action" does not allow clear comparison with other alternatives. We recommend clearly stating the loss of habitat in the Upper Slate Lake area (which differs from the FTF and TTF Closure with Reduced Water alternatives) but clearly identifying that the loss in Sherman and Johnson Creeks would be the same among all alternatives. Also under "Fish and Fish Habitat (Section 3.5)," in the seventh row, which begins "Change in water quality or quantity on fish and their habitat from spills or sedimentation," change the entry under the column "TTF Closure with Reduced Water" to "Same as No Action" for consistency with other alternative comparisons.
Summary	2-5	NA	Table S-3	Under "Wildlife and Wildlife Habitat (Section 3.7)," in the first row, the "Acres of productive old growth (POG) forest that would be directly lost/removed" does not match the values provided for POG (131, 98, and 79 acres, respectively) under "Vegetation and Sensitive, Rare, or Invasive Plants (Section 3.6)," in the first row, "Acres of vegetation by type that would be removed" (131, 30, and 53 acres, respectively).
Summary	2-5	NA	Table S-3	The statement, "A dam failure could cause long-term metals leaching from tailings in East Slate Creek and Lower Slate Creek." is inconsistent with the findings in Section 3.5.3.1, page 3-61, in the first sentence of the 4th paragraph. Please revise the Summary Table S-3.
Summary	2-5	NA	Table S-3	If the table is summarizing impacts, then the reference to property tax revenues should be presented in terms of impacts; e.g., if \$1.4 million to CBJ through 2023, then what is the tax loss (or gain) based on proposed LOM extension?
Summary	2-5	NA	Table S-3	The list of impacts caused by the proposed action should be changed to reflect the correct number and types of sites affected by the Proposed Action using the correct number of sites for the Comet WRS, the Pipeline Road WRS, and the Pit #4 Expansion. Also, Table S-3 states that there are two historic properties in the Pit #4 APE, but the Cultural Resources section of Table S-4 and the text of the Cultural Resources section of the DSEIS (Section 3.10) say that there are no historic properties in Pit #4.

Section	Page Number	Paragraph Number on Page	Figure or Table Number	Comment
Summary	2-5	NA	Table S-4	We recommend adding a line or shading to indicate that the Johnson Creek and Snowberrn Road WRSs are alternatives, while the other four are part of the Proposed Action.
Summary	2-5	NA	Table S-4	Please revise the number of historic properties for each site to reflect the correct total as revised in Attachment B to the January 4, 2021, DSEIS Comment Letter.
Summary	2-5	NA	Tables S-1 through S-4	We recommend a review of all summary table values for internal consistency. We recommend the use of footnotes where valid discrepancies exist. Specific examples are noted below.
Summary	2-5	NA	Table S-2	The statement, "A dam failure could cause long metals leaching from tailings in East Slate Creek and Lower Slate Creek." is inconsistent with the findings in Section 3.5.3.1, page 3-61 first sentence of the 4th paragraph. Please revise the Summary Table S-2.
Summary	S-5	9	NA	In the "Proposed Action" description, first sentence, consider adding a parenthetical statement similar to that on page 2-19, so that it reads, "The Proposed Action is a modification of the No Action Alternative (currently approved activities under the 2005 Plan of Operations)."
Summary	S-7	1	NA	The Summary states that "the Stage 4 Dam would be raised 66 feet instead of 88 feet in the Proposed Action." This is not correct. Stage 4 is a 36-foot raise and, with reduced water cover, is a 17-foot raise above the Stage 3 Dam.
1.1.1 Cooperating Agencies	1-1	5	NA	Modify the second-to last-sentence on page 1-1 to state that "ADEC must issue a certificate of reasonable assurance or a waiver under Section 401 ..."
1.4 Decisions to be Made	1-4	3	NA	The DSEIS states, "With an approved 401 Certification by ADEC, the USACE will decide whether to issue a CWA Section 404 individual Department of Army permit." Technically, this is not the case, as USACE can decide to issue, independently of ADEC's 401 decision, a permit in the form of a provisional permit. If USACE issues a provisional permit, it is not valid until ADEC issues or waives a 401 water quality certification.
1.4 Decisions to be Made	1-5	NA	Figure 1.4-1	This figure does not clearly depict the LUDs. The legend includes a column that presumably includes four LUDs (LUD II, Modified Landscape, Old-Growth Habitat, Semi-Remote Recreation). We recommend adding a header to this column to clearly label these as LUDs. Furthermore, the Old-Growth Habitat and Semi-Remote Recreation LUDs are indistinguishable and it is unclear if they are visible within the figure. Recommend correcting the symbology to differentiate these two LUDs or removing them if they are not shown in the extent of the figure.
1.5.3 Significant Issue	1-7	4	NA	We recommend deleting "increased production of tailings," as it is previously stated that this is not a factor that the Forest Service regulates, and it is redundant in regard to the expansion of tailings and waste rock areas.
2.2.1 Mining and Processing Operations	2-1	8	NA	The last sentence on page 2-1 is incorrect. Per POA 1, approximately 40 percent (800 tons per day [tpd]) of the mill tailings are sent to the underground paste plant for use as underground backfill, and the remaining 60 percent (1,200 tpd) are deposited sub-aqueously in the TTF as conventional slurry tailings.
2.2.1 Mining and Processing Operations	2-4	NA	Figure 2.2-3	Figure 2.2-3 incorrectly shows the Bulk Fuel Depot being located in the mine area rather than at the mine dock.

Section	Page Number	Paragraph Number on Page	Figure or Table Number	Comment
2.2.1 Mining and Processing Operations	2-6	NA	Figure 2.2-5	We recommend labeling South Creek and Fat Rat Creek and/or adding an inset or additional map showing the current layout of the confluence of Fat Rat Creek with South Creek and the confluence of South Creek with Upper Slate Lake to clarify changes proposed as part of POA 1.
2.2.2 Tailings Treatment Facility	2-7	2	NA	The last sentence in paragraph 2 on page 2-7 should be revised to state that "Six feet of freeboard is provided between the spillway invert elevation and the embankment crest elevation." This is described in Section 3.4 of POA 1.
2.2.3 Water Management and Treatment	2-8	5	NA	Please correct the last sentence of the fourth paragraph in Section 2.2.3 that begins "Material filtered from the Comet WTP..." Per POA 1, Section 3.1, material filtered from the Comet WTP is disposed of primarily in underground stopes. Only on rare occasions are sediments placed on the Comet WRS.
2.2.3 Water Management and Treatment	2-10	1	NA	We recommend deleting the last sentence of the first paragraph on page 2-10 related to salmon habitat that begins "Habitat in Sherman Creek..." This information is more appropriate in Chapter 3, Section 3.5.2.
2.2.6 Other Mine Facilities and Operations	2-11	5	NA	The discussion of marine traffic is incorrect. The numbers provided appear to refer to tractor-trailer round trips on the Jualin road, but the reader assumes it is referring to marine vessel shipments. The 2004 SEIS estimated that there would be four concentrate shipments per week via barge; the current average is one per week.
2.2.6 Other Mine Facilities and Operations	2-11	6	NA	This paragraph provides the first mention of Yankee Cove ferry landing and Echo Cove. If they are relevant to the POA 1 analysis, recommend showing these locations on an overview map or describing their locations.
2.2.7 Reclamation and Closure	2-12	2	NA	All WRSs would be reggraded to 2H:1V slopes, per Section 7.7 of POA 1. No WRS grades would equal 1.5:1.
2.2.8.3 Freshwater Resources	2-16	Bullet 9	NA	We recommend identifying Mid-Lake Creek on maps if it is relevant to the POA 1 analysis. This location has not been previously identified in text or figures and is mentioned only in this instance in the DSEIS.
2.2.8.5 Heritage/Cultural Resources	2-17	1	NA	We recommend clarifying whether the text discussing the MOA refers only to the 2004 MOA, the new MOA, or both.
2.3 Proposed Action	2-21	NA	Fig. 2.3-2	Figure 2.3-2 calls out the "Stage 4 Causeway," while the document (e.g., pages 2-19, 2-32) refers to it as the "Back Dam." Please correct the figure.
2.3 Proposed Action	2-21	NA	Figure 2.3-2	We recommend labeling South Creek and Fat Rat Creek. Also, it is unclear if this figure depicts the proposed fish habitat improvements included as part of POA 1. We recommend that fish habitat improvements be included to provide a complete view of TTF-area work. We also suggest using a color other than white to clearly outline the proposed disturbance. It is confusing and difficult to discern with the white arrows and labels. A similar comment could apply to all figures.



Section	Page Number	Paragraph Number on Page	Figure or Table Number	Comment
2.3 Proposed Action	2-22	NA	Table 2.3-1	The 6.7 acres of additional TTF disturbance (Column 2, Row 8) does not appear to include disturbance as a result of depositing tailings and raising the operating water level. We recommend that this value be checked. Additionally, we recommend that the disturbance acreage of 29.5 acres listed in Note 2 be verified.
2.3.1 Stage 4 Dam Raise and Tailings Treatment Facility Expansion	2-22	1	NA	We suggest adding "at Stage 3" after "The TTF height..." and deleting the word "currently" from the parenthetical "(currently 88 feet)" to clarify that the TTF dam height is not currently 88 feet, but will be at the completion of Stage 3.
2.3.1.1 Back Dam	2-23	5	NA	In the last sentence of this paragraph, we recommend deleting "... (flows resulting from storms with return periods more than 200 years)." This is an incorrect definition of the probable maximum flood.
2.3.1.8 West and North Stormwater Diversions	2-25	NA	Figure 2.3-4	Figure 2.3-4 calls out the "Causeway," while the document (e.g., pages 2-19, 2-32) refers to it as the "Back Dam." Please correct the figure.
2.3.2 WRS Expansion Areas	2-27	NA	Figure 2.3-5	The Kensington WRS Expansion polygon is the old one from POA 1's Figure 4-1. We need to use the polygon from Figure 4-5.
2.3.2 WRS Expansion Areas	2-28	NA	Figure 2.3-6	The Kensington WRS Expansion polygon is the old one from POA 1's Figure 4-1. We need to use the polygon from Figure 4-5.
2.3.3 Fish Habitat Enhancement	2-29	4	NA	We recommend providing additional discussion in text and on figures describing proposed fish habitat improvements. For example, we recommend revising the first sentence in this paragraph to provide spatial context: "Coeur Alaska has developed a fish habitat enhancement to promote Dolly Varden spawning habitat that would include constructing two deltas: one in Upper Slate Creek upstream of Upper Slate Lake, and one in South Creek upstream of the confluence of South Creek with Upper Slate Lake..." This section also describes Tributaries 1 and 2, which are not labeled on Figure 2.3-10 and are discussed in the contexts of both Upper Slate Creek and South Creek. Please clarify.
2.3.3 Fish Habitat Enhancement	2-33	NA	Figures 2.2-5 and 2.3-2	Spectacle Creek is not labeled on these figures, and the location of the referenced culvert replacement is unclear. Recommend showing and/or labeling Spectacle Creek on Figures 2.2-5 and 2.3-2.
2.3.4 Reclamation and Closure	2-34	NA	Figure 2.3-10	Figure 2.3-10 calls out the "Stage 4 Causeway," while the document (e.g., pages 2-19, 2-32) refers to it as the "Back Dam." Please correct the figure.
2.3.4 Reclamation and Closure	2-34	NA	Figure 2.3-10	Figure 2.3-10 is unclear regarding what is existing and what is proposed. We recommend clearly showing the proposed work on the figure and labeling in the legend to differentiate from existing conditions.

Section	Page Number	Paragraph Number on Page	Figure or Table Number	Comment
2.3.5.2 Water Quality Monitoring	2-36	6	NA	For clarity and accuracy, consider changing the text of Section 2.3.5.2, second paragraph, to read: "Discharge from point sources included in the Comet WTPs and the TTF WTP are regulated in APDES Discharge Permit AK005057-1, which is subject to renewal in 2022 and periodically thereafter."
2.3.5.4 Wetland Monitoring	2-37	2	NA	Please add a discussion of wetland creation from the Comet WTP where appropriate in Section 2.3.4. This is the first mention of wetland creation from the Comet WTP.
2.4.2 Filtered Tailings Facility with No Stage 4 Dam Alternative	2-39	2	NA	See the sentence that begins: "Filtered tailings (less than 20 percent entrained water, more than 80 percent solids)...". Is this supported by testing? Suggested rewording: "Filtered tailings are created by mechanically removing moisture from slurry tailings for a cake that is typically in the range of 80 percent solids by mass."
2.4.2 Filtered Tailings Facility with No Stage 4 Dam Alternative	2-39	NA	Table 2.4-1	The "TTF Back Dam" row should be removed from Table 2.4-1 as it is not part of the permitted design or the Filtered Tailings Facility proposed alternative.
2.4.2 Filtered Tailings Facility with No Stage 4 Dam Alternative	2-40	6	NA	The conceptual layout of the Filtered Tailings Facility had a maximum tailings thickness of approximately 210 feet, not the 100-foot thickness referenced in paragraph 6 on page 2-40. Therefore, a maximum height of 305 feet is not correct. Coeur's conceptual design of the Filtered Tailings Facility alternative did not include a geomembrane liner, which the EIS indicates "would be required to protect groundwater" because the existing TTF would be used to receive the water from the Filtered Tailings Facility. Therefore, in Coeur's viewpoint, lining the Filtered Tailings Facility does not provide additional protection to water resources.
2.4.2 Filtered Tailings Facility with No Stage 4 Dam Alternative	2-40	4	Figure 2.4-1	On the page before the figure (page 2-40, paragraph 4), the figure is introduced with "As shown on Figure 2.4-1, the toe buttress would be submerged by the Stage 3 TTF tailings..." The toe buttress is not shown on Figure 2.4-1; it should be added.
2.4.3 TTF Closure with Reduced Water Alternative	2-40	9	NA	Consider adding a reference to the volume of additional tailings storage provided by this alternative in this section, because it does not appear to be clearly stated here.
2.4.3 TTF Closure with Reduced Water Alternative	2-40	9	NA	Section 2.4.3 does not have a summary table of Existing and Alternative Disturbance Acres and Ownership for this alternative similar to Tables 2.3-1 and 2.4-1 provided for the other two action alternatives. This information would be helpful to provide a quantitative comparison of disturbance footprints between action alternatives and to cross-reference information provided in the Summary and Chapter 2 summary tables.
2.4.3 TTF Closure with Reduced Water Alternative	2-42	2	NA	This paragraph states that the Proposed Action Stage 4 crest elevation would be 779 feet AMSL, when it would actually be 776 feet; please correct.

Section	Page Number	Paragraph Number on Page	Figure or Table Number	Comment
2.4.3 TTF Closure with Reduced Water Alternative	2-43	4	NA	In the last paragraph, the second sentence, which begins "This would improve safety..." should be changed to indicate that reclamation can occur "...without the need for wick drains, well points, etc."
2.4.3 TTF Closure with Reduced Water Alternative	2-43	4	NA	Section 3.5.3.2 describes a key difference between the Proposed Action and the TTF Closure with Reduced Water, which is that the TTF Closure with Reduced Water would continue the flow bypass from Upper Slate Lake to East Fork Slate Creek after closure and would not allow restoration of spawning and rearing habitat in Lower Slate Lake after closure. This information is missing from Section 2.4.3 and is necessary to understanding the tradeoffs in impacts between alternatives. Figures depicting each alternative at closure would be helpful in distinguishing facilities/impacts that will persist after reclamation versus those that will not.
2.4.4 WRS Options	2-45	1	NA	Additional discussion of how various WRS options may be combined to meet the project purpose and need is needed to allow comparison of impacts between various options. The Proposed Action includes expansion of WRSs at Kensington, Pit #4, Comet, and construction of a new Pipeline Road WRS (Section 2.3.2). Additional explanation is needed to describe which of these proposed WRSs could be replaced while still providing space to store the necessary 5 million tons of waste rock. Each discussion of environmental consequences in Chapter 3 should then disclose and/or compare the WRS Option combinations that meet the purpose and need to provide a point of comparison to the Proposed Action.
2.4.4.2 Johnson Creek WRS	2-45	5	NA	The paragraph that begins "This is considered best management..." is incomplete. It is unclear what is considered a best management standard.
2.5.1.1 No TTF Lake at Closure	2-47	2	NA	Please correct the reference to dam elevation; 749 feet is the elevation of the proposed Stage 4 Operating Pool, not the Stage 4 dam.
2.5.1.1 No TTF Lake at Closure	2-47	NA	Table 2.5-1	In Table 2.5-1, annual precipitation of 85 inches for Kensington Mine does not reflect what was stated in the Plan of Operations. The Plan of Operations specifies annual rates between 99 and 126 inches per year. Precipitation is an important distinction to call with respect to a dry closure discussion. Please also correct the reference to a 3,500 tpd production rate for Kensington Mine. The production rate should be 3,000 tons/day.
2.7.1 Comparison of Alternatives Features	2-53	NA	Table 2.7-1	In the "Post-Closure TTF" section of the table, how can Final Lower Slate Lake Surface Acres for the No Action and Filtered Tailings Facility alternatives be the same if the Filtered Tailings Facility footprint encroaches into the Stage 3 TTF? The Lower Slate Lake water surface acreage should decrease with the Filtered Tailings Facility alternative.
2.7.2 Comparison of Impacts	2-55	NA	Table 2.7-3	Under "Wetlands and Waters of the U.S.," the "Acres of wetland converted or lost" actually refers to "acres of wetlands and waters converted or lost..." This distinction is important, as it helps clarify why the total of wetland functions converted or lost does not equal the total acres of wetlands and waters lost.
2.7.2 Comparison of Impacts	2-58	NA	Table 2.7-3	The list of impacts caused by the proposed action should be changed to reflect the correct number and type of sites affected by the proposed action using the correct number of sites for the Comet WRS, the Pipeline Road WRS, and the Pit #4 Expansion. Also, Table 2.7-3 states that there are

Section	Page Number	Paragraph Number on Page	Figure or Table Number	Comment
				two historic properties in the Pit #4 APE, but the Cultural Resources section of Table S-4 and the text of the Cultural Resources section of the DSEIS (Section 3.10) say that there are no historic properties in Pit #4.
2.7.2 Comparison of Impacts	2-60	NA	Table 2.7-4	Revise the number of historic properties for each site to reflect the correct total as revised in Attachment B. This should be the same as the Cultural Resources section of Table S-4 (see comment 179).
3.1 Introduction	3-1	1	NA	Chapter 3 describes environmental consequences of the Proposed Action and Action Alternatives on environmental resources. A key component of the analysis is consideration of potential effects of tailings dam failure on aquatic resources in the project area. However, as Section 3.2 describes, tailings dam failure is an extremely unlikely event and thus the effects described are also highly unlikely. To place discussion of these effects in proper context, we recommend segregating discussion of a tailings dam failure in its own section or within a distinct section in the discussion of impacts to each resource (see similar analyses of low-probability/high-consequence oil spills in the recent Willow Master Development Plan FEIS (BLM 2020), Nanushuk Project EIS (USACE 2018), or Point Thomson EIS (USACE 2012)). Organization of analysis in this manner will help convey both the likelihood and the consequences of a highly unlikely and unplanned event while allowing clear discussion of impacts that are likely to occur as a result of the proposed project. This segregation would also be appropriate for the summary tables in the Summary and Chapter 2. At present, impacts from unplanned and unlikely tailings dam releases are mixed with impacts that are likely to occur as a result of planned construction and operations.
3.1 Introduction	3-1	NA	Table 3.1-1	We suggest adding a statement to support the fact that the facility has been designed with a conservative approach. We suggest adding text noting that the TTF was designed to accommodate flows resulting from storms with return periods in excess of 200 years, including the Probable Maximum Flood (PMF).
3.1 Introduction	3-2	NA	Table 3.1-1	Transportation: please also mention that marine transportation via employee ferry and barges for concentrate is also not changing under the Proposed Action or the alternatives.
3.2.1 Analysis Methods	3-3	6	NA	We suggest that the first paragraph in Section 3.2.1 and the definition of risk be reworded to read: "Risk involves uncertainty about the effects/implications of an activity with respect to something that humans value (such as health, well-being, property or the environment), often focusing on negative, undesirable consequences."
3.2.1.1 Probability for Tailings Dam Failures	3-4	2	NA	<p>We suggest that the discussion on probability for dam failures remain specific to the Proposed Action and alternatives as opposed to presenting information that includes facilities being designed, operated, closed under different international standards, under different climates, etc. We suggest re-evaluating the need to present the statistics as described in the first two sentences of the third paragraph.</p> <p>The emphasis should be that facilities constructed with downstream techniques fail less than with upstream techniques, and the rock fill embankments have been shown to withstand earthquakes with little damage. Both aspects relate directly to the TTF. Dam stability is site-specific, and</p>

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				engineering studies specific to the TTF that demonstrate stability, such as the dam stability analysis, should be presented.
3.2.1.1 Probability for Tailings Dam Failures	3-5	1	NA	Refer to the paragraph that begins with "Besides age..." Discussion up until this point has not described age as a risk factor. Rather, risk differs between active and inactive dams, which may, but does not necessarily, correlate to age. We recommend either deleting the reference to age or more clearly explaining how age contributes to risk.
3.2.1.1 Probability for Tailings Dam Failures	3-5	3	NA	Please note in the last sentence of Section 3.2.1.1 that the statement does not apply to TTF Closure with Reduced Water Alternative, as the stored water volume in closure and operations would be the same.
3.2.2.2 Existing Stage 3 TTF	3-8	2	NA	We suggest rewording the last sentence to read: "A minimum static Factor of Safety equal to 1.5 is a typical industry-accepted standard for dams in most jurisdictions."
3.2.2.2 Existing Stage 3 TTF	3-9	2	NA	We recommend that the Forest Service remove this clause from the last sentence: "...following the catastrophic tailings dam collapse at Brumadinho, Brazil on January 25, 2019..." The tailings dam failure in Brazil is irrelevant to understanding the purpose of permit requirements and the geotechnical instability.
3.2.3.1 No Action Alternative	3-10	3	NA	Here and for each action alternative, we recommend correcting statements regarding tailings-to-water ratio. This paragraph states that "...high ratio of water to tailings in the impoundment (1.4:1)" when, according to Table 3.2-2, this should be tailings to water. A similar inconsistency occurs in Section 3.2.3.2, paragraph 3 (page 3-11), where it states that a "...high ratio of water to tailings in the impoundment (0.54:1)." This value appears to state the inverse of the tailings-to-water ratio presented in Table 3.2-2 (2.0:1). We recommend using the same ratio format (tailings to water) throughout the discussion and tables and for comparison among alternatives.
3.2.3.1 No Action Alternative	3-10	4	NA	We suggest that tailings runout be well defined immediately following the first mention in the paragraph to avoid giving the reader the perception that tailings would travel a great distance from the site. Tailings runout is defined as being the distance for surface flow to travel and not the distance that material would be carried. It would be beneficial to note that formal studies are required to assess actual inundation areas when a tailings dam failure has been assumed. We suggest that it be clearly stated that the runout distances reported are generalizations based on statistical equations presented in the referenced paper and are not intended to indicate actual runout.
3.2.3.2 Proposed Action	3-11	3	NA	Section 3.2.3.2 would benefit by clarifying whether the analysis assumes a closure breach or an operating breach.
3.2.3.3 Filtered Tailings Facility	3-12	3	NA	We suggest a terminology change: Please use the term "Filtered Tailings" instead of "Dry Stack Tailings."

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3.2.3.3 Filtered Tailings Facility	3-12	5	NA	We believe it should be further clarified that the use of the referenced Rico et al. (2008) paper for estimating the FTF tailings release volume is very conservative since this paper presents data from slurry tailings facilities. We recommend adding a sentence similar to the following, after the second sentence: "The use of the lower bound trendline is a conservative approach, as these data are not representative of filtered tailings or tailings that have been compacted during placement."
3.2.3.3 Filtered Tailings Facility	3-13	2	NA	The statement that "...more tailings would flow downstream than under the No Action Alternative" is consistent with Table 3.2-2, but inconsistent with the value provided in Table S-3 and Table 2.7-3, which state 2.4 million tons (same as No Action). Please clarify.
3.2.3.3 Filtered Tailings Facility	3-13	2	NA	We recommend clarifying the statement that "the probability of this occurring is low" in reference to failure of the Filtered Tailings Facility. Statements on the previous page indicate that achieving design conditions used to reach low probability is "challenging" and "a constant challenge," suggesting that a finding of low probability may understate the risk.
3.2.3.4 TTF Closure with Reduced Water	3-13	5	NA	When presenting this alternative, it should be mentioned that the Stage 4 TTF would be constructed with a lower elevation dam than the Stage 4 in the Proposed Action.
3.2.3.4 TTF Closure with Reduced Water	3-14	2	NA	This paragraph states that failure of the TTF with reduced water could result in tailings release of 2.7 million tons, but just 1.9 million tons would reach Slate Cove. This is consistent with values given for "Estimated release volume" in Table 3.2-2 (2.7 million tons) but appears inconsistent with findings in Table S-3 and 2.7-3, which appear to be reporting the tailings volume estimated to reach Berners Bay. We recommend correcting Tables S-3 and 2.7-3 to 1.9 million tons, as that is the volume estimated to reach Slate Cove.
3.2.3.5 Environmental Consequences	3-16	NA	Table 3.2-2	We recommend that the value in Column 4, Row 2 (TTF Closure w/ Reduced Water, crest length) be verified. Our conceptual engineering suggests a length closer to 690 feet.
3.2.3.5 Summary of Geotechnical Safety Comparison	3-16	NA	Table 3.2-2	We recommend adding a line to the table qualitatively describing the risk of TTF failure relative to the No Action Alternative. For example, No Action = extremely unlikely, Proposed Action = same as No Action, FTF = slightly higher than No Action, etc.
3.3.2 Affected Environment	3-17	4	NA	It would be clearer to describe the "ADEC Multi-Sector General Permit (stormwater permit)" as the "ADEC Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (AKROAA50) (stormwater permit)" here or wherever it is first referenced, and use the shorthand "stormwater permit" thereafter.
3.3.2 Affected Environment	3-17	5	NA	Consider inserting the phrase "facility's individual" in front of "APDES permit (AK0050571)" here and "individual" as part of all references to that permit elsewhere, to distinguish it from the multi-sector general stormwater permit.
3.3.2.1 Water Quality and Monitoring	3-20	NA	Table 3.3-1	We recommend stating the pH monitoring limit as a range instead of a single value. Reported values above/below range would be considered exceedances, but as shown, some values are above the monitoring permit limits stated, while others are below them.
3.3.2.1 Water Quality and Monitoring	3-21	NA	Figure 3.3-1	White and yellow Xs shown on Figure 3.3-1 are not included in the legend. Please indicate what these symbols mean.

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3.3.2.2 Flow Regimes and Stream Geomorphology	3-23	5	NA	Please verify the reference to NewFields 2018a (POA 1). We can't find this statement in POA 1.
3.3.3.1 Effects Common to All Alternatives	3-26	1	NA	Much of the information in the Acid Rock Drainage section appears to be either affected environment-type information or would be best located in Section 2.2.1, as it is primarily a discussion of ongoing operations and baseline conditions.
3.3.3.1 Effects Common to All Alternatives	3-28	1	NA	Regarding the sentence, "The Proposed Action would result in the largest release of tailings volume and thus, the largest inundation of substrate in Slate Cove." We suggest that this be clarified by acknowledging the type of temporal impact, which will help clarify the duration of the impact.
3.3.3.4 Filtered Tailings Facility Alternative	3-29	7	NA	Differences in alternatives with respect to dealing with graphitic phyllite material are unclear. Based on discussion in Sections 3.3.3.4 and 3.3.3.5, it appears that the risk of exposure of graphitic phyllite materials and long-term management at the tailings dam would be identical between alternatives, although it does acknowledge that ground disturbance associated with the Filtered Tailings Facility introduces additional risk of exposure. However, text in the Summary table (Table S-2 as well as Table 2.7-2) states that the Filtered Tailings Facility alternative and the TTF Closure with Reduced Water would not encapsulate all known sources of graphitic phyllite, a difference that is not described in Section 3.3.3. This difference should be clearly described in Section 3.3.3 and, in particular, if some alternatives may require more active management of graphitic phyllite materials, possibly for the duration of operations and into reclamation, this needs to be clearly described in the discussion of potential impacts on surface water quality.
3.3.3.5 TTF Closure with Reduced Water	3-30	2	NA	The first sentence under "Potential Dam Failure" states that the TTF Closure with Reduced Water is estimated to release fewer tailings than the No Action Alternative. This appears inconsistent with the referenced Table 3.2-2, which shows the TTF Closure with Reduced Water releasing 2.7 MT of tailings versus 2.4 MT released by the No Action Alternative. Please correct this statement.
3.3.3.5 TTF Closure with Reduced Water	3-30	4	NA	Acid Rock Drainage - It should be noted here that under the TTF Closure with Reduced Water, the graphitic phyllite would not be inundated by water. Under this alternative, the graphitic phyllite would require another method of treatment that will have less reliability of long-term containment compared to POA 1.
3.3.3 Environmental Consequences	3-30	4	NA	Section 3.3.3 does not discuss the environmental consequences of the proposed WRS expansions and/or the WRS Options on water quality. Potential differences on water quality are discussed in Section 3.5 but would be more appropriate here as a new section (Section 3.3.3.6) starting on page 3-30. That said, it would be useful to acknowledge that the WRS alternatives in effect have very similar environmental consequences compared to the mine's on-going operations as well as to each other due to the type of materials placed there, the result of on-going monitoring, and mitigation measures that would carry over from the existing and permitted Plan of Operations into POA 1.

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3.4 Wetlands and Riparian Management Areas	3-30	5	NA	This section incorrectly uses the terms "wetlands" to describe aquatic resources of all types. Wetlands, as defined by USACE, must be vegetated under normal conditions. They are classified as palustrine emergent, palustrine scrub/shrub, or palustrine forest. Non-vegetated aquatic resources, including streams and ponds, are not wetlands and should not be referred to as such. The Cowardin classifications for waterbodies include palustrine unconsolidated bottom and riverine areas. This distinction is relevant to the wetland functional assessment and, in some cases, analysis of impacts, as inundation of waterbodies would have different impacts than inundation of wetlands. Note that both wetlands and waterbodies can be Waters of the U.S. Please update the text, figure titles, and table titles and headings that use the term "wetlands" to refer to both wetlands and waterbodies where appropriate for accuracy. This comment also applies to Section 3.4.3.2, paragraph 1 (page 3-36).
3.4.2 Affected Environment	3-31	NA	Figure 3.4-1	Figure 3.4-1 would be more effective if it showed areas of mapped wetlands and waterbodies, instead of the POA 1 Proposed Action disturbance boundary (which is already provided in Chapter 2). A map of the wetlands and waterbodies would help the reader understand the spatial distribution of affected resources and potential differences between the alternatives. Please update the title to acknowledge "Wetland and Waterbody Delineation Study Areas."
3.4.2.1 Wetlands	3-32	1	NA	The reference to "HDR, Inc. 2020b" is to the EFH Assessment. It is more likely that the Forest Service intended to use the reference to HDR's Wetland and Waterbody Report, which is listed in the References Cited section as "HDR 2020c".
3.4.2.2 Wetland Types and their Functional Ratings	3-32	2	NA	The statement that the wetland functional assessment is based on the Southeast Alaska Freshwater Assessment Method is incorrect. As stated in HDR, Inc., 2020a, the functional assessment method is based on the Wetland Ecosystem Services Protocol for Southeast Alaska (WESPAK-SE) version 2.0.
3.4.2.2 Wetland Types and their Functional Ratings	3-32	NA	Table 3.4-1	We recommend deleting Table 3.4-1, as it does not provide useful information beyond the information more effectively summarized in Tables 3.4-3 through 3.4-7. If kept, please correct the following errors in both Table 3.4-1 and Table 3.4-2: (1) Update the table title to acknowledge "Acres of Wetlands and Waterbody Type Disturbances within Alternatives," (2) Correct the heading "wetland type" to "wetland or waterbody type" and we recommend subtotaling wetlands separately from waterbodies for consistency with later tables; (3) Add the term "emergent" to Wetland Type for any wetland where the Cowardin classification includes "EM" (e.g., PEM1/FO4B should be "Palustrine emergent/forested;" (4) Define Cowardin classification codes in a footnote to make information useful for the reader; and (5) add a footnote stating that PUBHx waterbodies (i.e., manmade excavations such as ditches) are not included in the impact calculations.
3.4.2.2 Wetland Types and their Functional Ratings	3-34	1	NA	We recommend stating that, for the purposes of this functional assessment, TTF/Lower Slate Lake was not considered a lake when inputs were selected for indicators used to score wildlife support functions. The reasoning for this is described in Section 2.4 of HDR Inc., 2020a. It is also worth noting that WESPAK-SE does not provide a mechanism for rating waterbodies, so rivers and ponds do not receive functional ratings.



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3.4.3 Environmental Consequences	3-34	4	NA	Although it is mentioned in Tables 3.4-3, 3.4-4, and 3.4-5, Section 3.4.3 is missing a narrative discussion on the TTF Closure with Reduced Water Cover Alternative.
3.4.3.1 No Action Alternative	3-34	6	NA	This paragraph describes the reclamation of the Comet WTP and ponds, the WRS, etc. Please clarify whether reclamation anticipates restoration to wetland conditions or to uplands.
3.4.3.1 No Action Alternative	3-35	NA	Figure 3.4-2	Please change the color of the "Higher" rating so that it does not match the wetland delineation study area boundary. At present, it appears that higher rated wetlands are much more prevalent than what actually exists.
3.4.3.2 Proposed Action	3-36	1	NA	We recommend clarifying the acreage of aquatic resources that would be permanently converted to uplands versus those that would be converted to another aquatic resource type (i.e., conversion of wetlands to waterbodies through inundation). For example, during construction of the Stage 4 Dam and associated components under POA 1, discharging fill into and mechanically clearing land within waters of the U.S. would result in the conversion of waters of the U.S. to uplands. These areas would remain as uplands throughout the Stage 4 operations period. Following TTF closure and reclamation, some of these areas would be converted back to waters of the U.S. This results in a change in aquatic resource type and function but does not constitute a permanent loss of aquatic resources. POA 1 would also result in the conversion of uplands to deepwater habitat when the TTF is reclaimed as Slate Lake.
3.4.3.2 Proposed Action	3-36	2	NA	This paragraph contains statements that appear incorrect and/or are inconsistent with Table 3.4-3 and Table 3.4-4. The paragraph also incorrectly references Table 3.4-5. The first sentence states a loss of 1.6 acres of riverine wetlands. The acres described here are streams (waterbodies) and are not wetlands. None of these riverine waterbodies (streams) have been rated as moderate because WESPAK-SE does not evaluate waterbodies. The attributes described for riverine wetlands (i.e., wetlands that directly support riverine systems) do not apply to the streams themselves, and the statement should be deleted. The final sentence ("The expansion of the TTF would result...") appears redundant and contains inconsistencies. We recommend deleting this sentence.
3.4.3.2 Proposed Action	3-36	3	NA	As noted elsewhere, the Cowardin classification "PUBH" (palustrine unconsolidated bottom) refers to ponds. These features are not by definition wetlands. Inundation of a pond would remain a pond, although perhaps of different water depth or physical characteristics. It is unclear from the text if any actual wetlands would be inundated. Please also note that during operations, the TTF is not considered a lake for the purposes of scoring wildlife support functions. For consistency, any wetlands adjacent to the TTF would not be considered higher functioning until operations are complete and reclamation has occurred.
3.4.3.3 WRS Options	3-38	NA	Table 3.4-7	Please clarify the difference (or correct the error) between total acreage of wetlands and waterbodies impacted at the Johnson Creek WRS in Table 3.4-6 (4.0 acres) versus Table 3.4-7 (3.3 acres).
3.5.2.1 Freshwater Habitat	3-40	NA	Figure 3.5-1	Several features are mentioned in text, but not shown in the figure. We recommend adding the following features or labeling them if they currently are shown on the map: Camp Creek, TTF diversion, Fat Rat Creek, and South Creek.

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3.5.2.1 Freshwater Habitat	3-42	2	NA	The last sentence of the paragraph states that: "West Fork Slate Creek has resident fish." It would be helpful to identify which fish species are found here.
3.5.2.1 Freshwater Habitat	3-42	3	NA	The discussion of Johnson Creek Drainage fish and fish habitat appears to be unusually abbreviated at just one sentence. Is there additional information that could be added to this section?
3.5.2.4 Marine Species	3-55	1	NA	This section would benefit from a more regional-scale figure of Lynn Canal/Berners Bay. Many of the locations referenced are not placed in spatial context to the project, and thus it is difficult to understand how distribution of marine species, their habitats, and associated commercial fisheries may overlap with project activities or effects.
3.5.3.1 Freshwater Habitat	3-60	2	NA	The second paragraph on page 3-60 appears to repeat most of the information in the paragraph immediately above it. We recommend removing repetitive information and text.
3.5.3.2 Proposed Action and Action Alternatives	3-63	1	NA	Section 3.5.3.2 would benefit from a summary table describing and comparing various project impacts and benefits to fish habitat; specifically, describing mileage/feet of fish habitat lost, mileage/feet of fish spawning habitat created, number of new road crossings, etc. Additional information describing the reasons for differences in the number of stream crossings between alternatives would be helpful, as it is unclear from either text or figures what drives the difference.
3.5.3.2 Proposed Action and Action Alternatives	3-64	6	NA	We recommend noting that culverts on fish streams also would comply with Alaska Department of Fish and Game standards. This comment also applies to other similar statements throughout this section.
3.5.3.2 Proposed Action and Action Alternatives	3-64	4	NA	The discussion of potential consequences from the Filtered Tailings Facility fails to mention the lack of fish enhancements, which is an important distinction between the Filtered Tailings Facility and Proposed Action that should be mentioned here. In addition, the discussion of the reduced water alternative mentions, but does not elaborate on, the lack of fish enhancements. It would be helpful to discuss how the alternatives compare in terms of fish habitat and potential fish abundance, which is greatly influenced by the proposed fish enhancements.
3.5.3.2 Proposed Action and Action Alternatives	3-65	2	NA	The sentence that begins: "The resulting water body with shallow depths may be poor Dolly Varden Habitat..." does not clearly explain which water body is being referenced (Lower Slate Lake), particularly as the previous sentence describes conditions in Upper Slate Lake. Please clarify which water body is being described.
3.5.3.2 Proposed Action and Action Alternatives	3-66	1	NA	The second sentence in the WRS options section is confusing and should be revised for clarity. We recommend that the section first address the potential impacts of the proposed WRS options, then compare them to the Johnson Creek and Snowbird Road WRS options. For example, there is mention of the two options being upstream of anadromous reaches, but the text fails to mention that all WRSs that are part of the Proposed Action are also above anadromous reaches and therefore makes a misleading comparison.

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3.5.3.2 Proposed Action and Action Alternatives	3-66	1	NA	Regarding the statement: "Site-specific channel typing to determine fish presence will be required before ground disturbing activities near these streams." This does not appear to be a justified requirement that would provide environmental benefits. In lieu of channel typing, the Forest Service could rely upon field surveys conducted by ADF&G to complete the analysis in the Final SEIS.
3.5.3.2 Proposed Action and Action Alternatives	3-67	10	NA	We recommend that this section be revised to state that the TTF with Reduced Water Closure Alternative would require a water withdrawal granted in perpetuity due to permanent diversion of water from Upper Slate Lake around the TTF.
3.5.3.2 Proposed Action and Action Alternatives	3-68	2	NA	The second sentence under Sedimentation misleadingly states that there would be an increased number of truck trips and an increase in total road miles for all action alternatives. While the duration of active mining would increase over the No Action Alternative, the rate of daily truck traffic would not change (except under the Filtered Tailings Facility Alternative, which includes additional truck transport), and the difference in the average daily mileage between the Proposed Action and the No Action Alternative would be negligible.
3.5.3.2 Proposed Action and Action Alternatives	3-69	2	NA	Please note that marine vessels would not be refueled at Slate Cove Terminal except in emergency situations AND when necessitated by adverse weather conditions.
3.5.3.2 Proposed Action and Action Alternatives	3-69	4	NA	A search of all recent and publicly available Biological Opinions issued by NMFS, which include projects from Sitka, Auke Bay, Ketchikan, Juneau, Haines, and Hoonah, did not include threatened and endangered (T&E) salmon. That is, the species were not included, much less included with a "no effect" determination. Consequently, the biological assessment prepared for the project does not include T&E salmon. As such, we do not believe it is appropriate to include T&E salmon in the Draft SEIS. Furthermore, the biological assessment, not the biological evaluation, would be the document used for consultation with NMFS under Section 7 of the ESA. Last, the biological assessment made recommendations; no determinations of effect have been made for the three marine mammal species included in the biological assessment.
3.6.3.2 Effects of Proposed Action and Action Alternatives	3-74	NA	Table 3.6-3	The total acres affected by vegetation type for the Proposed Action and the Filtered Tailings Facility alternatives exceed the total disturbance footprints provided in Tables 2.3-1 and 2.4-1. In the case of the Proposed Action, the acres affected by vegetation type (186.2) exceed the total additional acres in Table 2.3-1 (151.3 acres) by more than 30 acres. Please correct or explain the discrepancy in the disturbance footprint for each alternative. This same discrepancy exists in Table 3.8-2 in the Soils section.
3.6.3.2 Effects of Proposed Action and Action Alternatives	3-74	NA	Table 3.6-3, Table 3.6-4	Alternative and WRS Option totals for all alternatives and options include "Developed" in the vegetation total. It is unclear from the text provided whether areas mapped as developed are in fact vegetated. If unvegetated, we recommend removing "Developed" areas from the table and recalculating the total acres of affected vegetation. Note that water is also not a vegetation type and should either be removed or moved into an "unvegetated area" category.

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3.6.3.2 Effects of Proposed Action and Action Alternatives	3-75	3	NA	In the first sentence, which states: "Under the Proposed Action, approximately 186 acres of old-growth forest would be..." the words "old-growth forest" should be replaced with "vegetation." As noted later in the sentence, only 131 acres of POG would be affected.
3.6.3.2 Effects of Proposed Action and Action Alternatives	3-76	11	NA	This paragraph references Section 3.6.3.3 for a summary of findings of the Invasive Plant Risk Assessment. No such section exists in the document and no summary appears to be provided within the section.
3.7.2.3 Forest Service Sensitive Species	3-83	7	NA	We recommend revising the last sentence on page 3-83 by replacing the phrase "...the species is assumed present due to the presence of suitable habitat..." Instead, state that suitable habitat is present and that the project area overlaps with the species' known range. It is not accurate to assume that the species is present when surveys in the last 20 years have not recorded any active nests.
3.7.2.3 Forest Service Sensitive Species	3-85	NA	Table 3.7-2	In the entry on "Black and Brown Bear," the analysis speculates that operation of the project may be affecting the way bears use the area, based on a decline in observations during a single year (2018). First, such conjecture is not made in Coeur Alaska (2019); in fact, the cited report suggests that black bears are one of the most common mammal species observed during monitoring. Second, a single year decline in bear sightings over the entire life of the project to date does not strongly support that speculation. We recommend providing an additional analysis and support for this conclusion or deleting it. Additionally, it should be noted that brown bears are relatively rare, compared to black bears, in and near mine facilities and are more common in coastal areas.
3.7.2.4 Management Indicator Species	3-85	NA	Table 3.7-2	Under "Bald Eagle," the statement that the closest bald eagle nest is 0.8 mile away from the project area is incorrect. This information comes from HDR (2019b), but HDR (2019b) measured the distance from the nearest known nest to their study area, which in this case was the Sherman Creek WRS, which is not part of the Proposed Action or alternatives in the DEIS. The nearest known (historic) bald eagle nests to the Proposed Action or alternatives would be two nests on the coast of Berners Bay that are approximately 1 mile from the eastern boundary of the proposed Pit #4 WRS expansion.
3.7.2.4 Management Indicator Species	3-86	NA	Table 3.7-2	Please replace the reference to HDR (2019b) under Sitka Black-tailed Deer with Yeo and Peek (1992) as referenced in HDR (2019b).
3.7.3 Environmental Consequences	3-86	3	NA	We recommend that the Forest Service add a discussion of the difference between the Proposed Action and the WRS Options with regard to habitat fragmentation. The Proposed Action expands on three existing WRS footprints and proposes a new WRS that would be connected with the existing mine footprint. As compared to the Johnson Creek WRS, the Proposed Action would retain higher levels of habitat connectivity and reduce fragmentation over the WRS Options, particularly the Johnson Creek WRS Option.
3.7.3.2 Proposed Action and Action Alternatives	3-86	5	NA	In several subsections of this section, the alternatives described would be identical to the No Action Alternative but would extend the duration. Where applicable, we recommend clearly stating when alternatives are identical to the No Action Alternative in magnitude and intensity to help the reader clearly understand potential differences in impacts from current operations.

Section	Page Number	Paragraph Number on Page	Figure or Table Number	Comment
3.7.3.2 Proposed Action and Action Alternatives	3-87	5	NA	Discussion of T&E species should refer to and cite the biological assessment and any consultation with NMFS, rather than the Biological Evaluation. Currently, the project's biological assessment is not mentioned in the entire DSEIS, and no consultation with NMFS is mentioned.
3.7.3.2 Proposed Action and Action Alternatives	3-89	3	NA	Nest surveys for goshawks are not part of the monitoring program. Nest surveys are a requirement of the Forest Service prior to potentially disturbing activities on Forest Service land. Please revise this text for accuracy.
3.7.3.2 Proposed Action and Action Alternatives	3-89	7	NA	The discussion of potential impacts to mountain goats exaggerates the consequences of the Proposed Action and alternatives and includes incorrect or misleading statements. The statement that the decline in the Kensington Mine area was "stronger than in surrounding areas" is incorrect. The author misread White (2019), who was comparing declines in Kensington to the study area to the east, which is only the BL Ridge study area. As noted in Table 3 of White (2020), there was greater population decline in the Met (-0.13), Yeldagda (-0.18), S. Katzechin (-0.16), and Katzechin Lake (-0.12) study areas than in the Kensington (-0.10) study area from 2005 to 2019. Population estimates have decreased for the species as a whole, and these declines are largely explained by severe winters and unstable snowpacks. It is also incorrect to state that the mine has (page 3-90) "subsequently reduced the functional winter range carrying capacity of the area by 42 percent." White and Gregovich (2017) made this claim based on modeled winter habitat, not on empirical observations of mountain goat range use prior to mine development. Therefore, it is entirely possible that the modeled winter habitat nearest the mine was not used prior to mine development, and little to no displacement has occurred. It is also inaccurate to claim that the Proposed Action may result in population decline. It is highly unlikely that the mine would result in direct mortality. Habitat avoidance, if it were to occur as a result of the mine, could cause goats to relocate to adjacent habitat. Because adjacent habitats are not known to be at or near nutritional carrying capacity, no population declines should be expected as a result of avoidance, if it were to occur. Finally, the discussion of mountain goats relies heavily on published literature from White (2019) and White and Gregovich (2017). However, it does not include important statements qualifying the interim results of those studies. For example, White (2019) states that "interpretation of the causes of population declines should be considered preliminary, and future monitoring will be critical in for assessing such dynamics."
3.9.2.2 Employment and Wages	3-97	NA	Table 3.9-1	Table 3.9-1, which reflects Alaska Department of Labor data on annual employment and earnings in the City and Borough of Juneau (2018), contains calculation errors in all columns. For example, the total shown for the average annual number of jobs is 17,727; however, that total is actually 19,543 -- but this is not the correct total either, because public sector (federal, state, and local) jobs are double counted based on note #3 and the presence of the rows for "government," "federal," "state," and "local." This will affect the calculations for all columns, but the column totals have errors beyond double counting the public sector data. The data for the entire table should be revised and corrected, with corresponding adjustments made in the text and the Summary section of the Final SEIS.

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3.9.2.3 Government Revenues	3-101	2	NA	We recommend providing a short discussion of how the mines are assessed for tax purposes and if/how POA 1 is expected to alter that assessment; i.e., if an assessment is based on building/infrastructure, will that increase be based on improvements with POA 1 or if an assessment is based on an actual value of minerals extracted, etc.?
3.9.3.1 Effects Common to All Alternatives	3-103	NA	Table 3.9-6	The Alaska numbers show a loss of 359 direct jobs but 620 population (direct), when CBJ shows a loss of 359 direct jobs and 380 population (direct). There is no explanation for why a loss of the same number of jobs results in different population loss. Additional text explaining this would be helpful.
3.9.3.2 No Action Alternative	3-104	4	NA	From data obtained from Alaska DOL (2019c), it is clear that wages associated with mining jobs have a disproportionately positive impact on the economic conditions in the CBJ when comparing the Percent of Total Jobs and the Percent of Total Earnings. Taking this into account, the SDEIS concludes that there are not expected to be disproportionate effects on minority or low-income populations but does not mention the effects on the overall population, which would be substantially more adverse when compared to the other Action Alternatives discussed in the SEIS. We suggest a revision be made to account for this in the Final SEIS.
3.10.2 Affected Environment	3-106	2	NA	Change the following sentences: "During these surveys, the documentation was updated for several previously recorded Alaska Heritage Resources Survey sites and identified two new sites: JUN-01289 (Comet/Bear/Kensington Railroad – Rail-Side Building) and JUN-01290 (Structure G, a probable shop building associated with the Upper Jualin Mine Camp [JUN-00931])." to read: "During these surveys, the documentation was updated for several previously recorded Alaska Heritage Resources Survey sites. New site numbers were JUN-01289 (Comet/Bear/Kensington Railroad – Rail-Side Building) and JUN-01290 (Structure G, a probable shop building associated with the Upper Jua lin Mine Camp [JUN-00931])."
3.10.2 Affected Environment	3-106	2	NA	<p>The count and number of sites included in this paragraph and Table 3.10-1 are incorrect. We completed a review of the AHRS and previous survey reports to identify the actual locations of previously identified cultural resources sites in relation to the APE as defined in Section 3.10.1. This effort identified several sites and four historic districts (which are themselves historic properties with AHRS numbers) not included in the DSEIS. We also corrected the eligibility status of two of the sites included in the report. It should be noted that there is some confusion over which sites contribute to which districts. Please see Attachment B for suggested revisions to Table 3.10-1.</p> <p>We recommend changing the entire 2<sup>nd</sup> paragraph on page 3-106 to read: "Previous cultural resources survey reports (Higgs, 2015; Higgs, 2017; Higgs, 2018; Laughlin &amp; Blanchard, 2019; Raymond-Yakoubian 2004) and Alaska Heritage Resources Survey show 12 AHRS sites (including JUN-01289 and JUN-01290) and four NRHP-eligible historic districts within the APE (Table 3.10-1). Two of these sites (JUN-00940 and JUN-00950) have been determined not eligible for listing on the NRHP and are non-contributing elements to one or more of the historic districts. The remaining 10 sites are individually eligible or treated as eligible for listing on the NRHP and are contributing elements to one or more of the historic districts. Six if the NRHP-eligible AHRS sites and four historic districts are located within the Comet WRS APE; two NRHP-eligible AHRS</p>

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				sites and two historic districts are located within the Pipeline Road WRS ; two NRHP-eligible AHS sites and two historic districts are located within the Pit #4 WRS APE; and one NRHP-eligible AHS site and two historic districts are located within the Johnson Creek WRS APE. Laughlin & Blanchard (2019) report that there are no known TCPs within the APE, and none have been identified in Forest Service consultation with federally recognized Native American tribes or other interested parties."
3.10.2 Affected Environment	3-106	NA	Table 3.10-1	We have provided a revised Table 3.10-1 (Attachment B) to reflect the correct list of sites and historic districts, and to accurately reflect the eligibility of sites.
3.10.3.1 No Action	3-107	1	NA	We recommend changing "Adverse impacts on 14 archaeological sites within the footprint of the No Action Alternative that are eligible for inclusion in the NRHP have been partially mitigated under the 2004 MOA." to "Adverse impacts on 14 historic properties within the footprint of the No Action Alternative have been partially mitigated under the 2004 MOA."
3.10.3.2 Proposed Action and Action Alternatives	3-107	1	NA	We recommend adding a clear statement at the beginning of the section that no historic properties occur within the APE near the TTF under any of the action alternatives. Thus, all action alternatives would have the same effect on historic properties. Differences in effects on historic properties could occur as a result of use of the WRS Options.
3.10.3.2 Proposed Action and Action Alternatives	3-107	2	NA	The count of sites and districts that would be affected has been revised (see Attachment B). We recommend revising the opening two sentences of this paragraph to read: "Ten NRHP-eligible and unevaluated (treated as eligible) sites and four NRHP-eligible historic districts occur within the APE (see Attachment B). Direct effects on these historic properties would include irreversible physical damage, alteration, or destruction."
3.10.3.2 Proposed Action and Action Alternatives	3-107	3	NA	Laughlin & Blanchard only looked at some small data gaps associated with Pit #4. Higgs (2018) identified two historic properties within the APE for Pit #4 that will be adversely affected. We recommend deleting the second sentence of this paragraph, which begins "Although archaeological resources..."
3.10.3.2 Proposed Action and Action Alternatives	3-107	3	NA	The count of sites and districts that would be affected has been revised (see Attachment B). We recommend changing the first sentence of this paragraph to read: "Adverse effects on historic properties would occur within the Comet WRS Expansion, the Pit #4 WRS, the Pipeline Road WRS, and the Johnson Creek WRS APEs."
3.10.3.2 Proposed Action and Action Alternatives	3-107	4	NA	The count of sites and districts that would be affected has been revised (see Attachment B). We recommend revising this paragraph to read: "Under the Proposed Action, adverse effects (irreversible physical damage, alteration or destruction, degradation of setting and feeling associated with a given property through the introduction of new visual, auditory, or atmospheric elements into the property's environment) would occur to ten historic properties (six sites and four historic districts) within the Comet WRS Expansion; four historic properties (two sites and two historic districts) within the Pit #4 WRS, three historic properties (one site and two historic districts) within the Johnson Creek WRS, and four historic properties (two sites and two historic districts) within the Pipeline Road WRS (see Attachment B)."

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3.10.3.2 Proposed Action and Action Alternatives	3-107	6	NA	We recommend removing the statement that there are no historic properties located in the Johnson Creek WRS. The APE for the Johnson Creek WRS included in the DSEIS includes the Northern Access Road, which was not identified when HDR did their report in 2019. The road crosses one eligible AHRS site that is a contributing element to two historic districts. Coeur will be submitting a cultural resources report that includes the Northern Access Road in January 2021.
3.11.1 Analysis Methods	3-108	5	NA	We suggest a revision to this section because it is unclear how the Forest Service intends to apply the provision in the CWA 404(b)(1) Guidelines in the analysis because the provision cited is specific to the "aquatic ecosystem," and only a fraction of the Action Alternatives is sited in the aquatic ecosystem; i.e., most footprints occur in uplands and, as such, this cited section of the Guidelines is not relevant to the analysis.
3.11.2.2 Visibility from Visual Priority Travel Routes and Use Areas	3-109	1	NA	This section discusses the physical area from which certain members of the traveling public will be able to see the Comet WRS and the Pipeline Road WRS, and this is an acceptable approach. However, missing from the section is a discussion of the opportunities the public has to actually see either of these features. For example, the climatic conditions frequently prohibit or obscure the viewshed due to low-hanging clouds, fog, rain, snow, and/or the sea state. Information could be obtained from the National Weather Service to describe the number of days the public's view would be obscured by these natural events. Similarly, low-light or no-light levels also reduce the opportunities for the public to view the landscape, which occurs commonly for cruise ship passengers as ships travel from port to port in the evening and nighttime hours. Finally, it should also be acknowledged that, even on a seasonal level, the corridors are not heavily traveled. Cruise ships are absent for nearly 8 months each year, and the ferry system runs on a reduced schedule. When the climatic conditions and the seasonal use are taken into account, the impacts in the DSEIS associated with the expanded Comet WRS and the Pipeline Road WRS are overstated.
3.11.3.3 Proposed Action and Action Alternatives	3-113	4	NA	Please add that the Comet Growth Media Stockpile would not be visible from Lynn Canal. As written, it is unclear that it would not be visible.



**Attachment B. Suggested revisions to Table 3.10-1.**

**Table 3.10-1. Identified Cultural Resources in the Area of Potential Effect and their National Register Eligibility**

<b>AHRS #</b>	<b>Site Name</b>	<b>NRHP Eligibility</b>	<b>Location</b>
<b>Sites</b>			
JUN-00240	Comet/Bear/Kensington Mill Site	Eligible, contributing element of JUN-00022, JUN-00928, and JUN-00945	Comet WRS
JUN-00930	Lower Jualin Mine Camp	Eligible, contributing element of JUN-00022 and JUN-00928	Pit #4 WRS
JUN-00931	Upper Jualin Mine Camp	Eligible, contributing element of JUN-00022 and JUN-00928	Pipeline Road WRS
JUN-00932	Jualin Mine Tram	Eligible, contributing element of JUN-00022 and JUN-00928	Pit #4 WRS, Johnson Creek WRS (Northern Access Road)
JUN940	Valentine Prospect	Not Eligible, non-contributing element of JUN-00022 and JUN-00928	Johnson Creek WRS
JUN-00946	Comet/Bear/Kensington Railroad	Eligible, contributing element of JUN-00945, JUN-00022 and JUN-00928	Comet WRS
JUN-00948	Comet Mine Tram	Eligible, contributing element of JUN-00022, JUN-00028, and JUN-00945	Comet WRS
JUN-00950	Trites Road	Not Eligible, Non-contributing element of JUN-00022, JUN-00928, and JUN-00945	Comet WRS
JUN-00953	Bear-Kensington Mines Tram System	Eligible, contributing element of JUN-00022, JUN-00928, and JUN-00945	Comet WRS
JUN-00961	Lynn Canal Mining Company Horrible Mine Tram	Eligible, contributing element of JUN-00022, JUN-00928, and JUN-00954	Comet WRS
JUN-01289	Comet/Bear/Kensington Railroad - Rail-Side Building	Unevaluated, treated as eligible	Comet WRS
JUN-01290	Structure G	Unevaluated, treated as eligible	Pipeline Road WRS

AHRS #	Site Name	NRHP Eligibility	Location
<b>Historic Districts</b>			
JUN-00022	Jualin Mining District	Eligible	All Proposed Actions and Action Alternatives
JUN-00928	Berners Bay Historic Mining District	Eligible, contributing element of JUN-00022	All Proposed Actions and Action Alternatives
JUN-00945	Comet/Bear Kensington Mining District	Eligible, contributing element of JUN-00022 and JUN-00928	Comet WRS
JUN-00954	Ivanhoe/Horrible Mining District	Eligible, contributing element of JUN-00022 and JUN-00928	Comet WRS

Notes: AHRS IBS accessed November 13, 2020