



**Perpetua
Resources**

Perpetua Resources Corp.
405 S. 8th Street, Ste 201
Boise, ID 83702
Tel: 208.901.3060

www.perpetuareources.com

January 10, 2023

United States Forest Service, Payette National Forest
Attn: Linda Jackson, Payette Forest Supervisor
500 North Mission Street
McCall, ID 83638

Subject: Stibnite Gold Project Supplemental Draft Environmental Impact Statement

Dear Ms. Jackson,

Perpetua Resources Idaho, Inc. (Perpetua Resources) appreciates the opportunity to provide comments on the Stibnite Gold Project (SGP) Supplemental Draft Environmental Impact Statement (SDEIS). Clearly, the document represents a substantial effort by many individuals to compile and convey a very large volume of information and analysis regarding the SGP. The synthesis of hundreds of documents developed from a much greater multitude of data values, statistical analyses, and modeling projections into a single draft product is a noteworthy accomplishment, and Perpetua Resources is pleased to have been a stakeholder in its development.

Perpetua Resources has reviewed the entire SDEIS document and associated Resource Specialist Reports. In this letter and the comments provided in Attachment A, Perpetua Resources wishes to respectfully offer its perspective, insights, technical corrections, and clarifications to assist in improving the technical accuracy and defensibility of the Final Environmental Impact Statement (FEIS). Portions of SDEIS review that are addressed by this comment letter include:

- Executive Summary
- Chapter 1 – Purpose of and Need for Action
- Chapter 2 – Alternatives Including the Proposed Action
- Chapter 3 – Affected Environment
- Chapter 4 – Environmental Consequences
- Specialist Reports
- Chapter 5 – Cumulative Effects
- Appendix A - Payette National Forest and Boise National Forest Land and Resource Management Plans Consistency Review and Amendments

Comments in Attachment A specific to each document chapter and section are provided for the Executive Summary; Chapters 1, 2, and 5; and Appendix A. Chapters 3 and 4, and the Specialist Reports are organized



Critical Resources. Responsible Mining. Environmental Restoration.



by Resource for ease of your review and distribution to resource specialists. Please note that comments on select resources including Surface Water and Groundwater Quantity, Surface Water and Groundwater Quality, and Fish Resources and Fish Habitat are provided in individual comment submittals under separate cover. A supplementary comment letter that addresses Heritage Resources, Environmental Justice, and Tribal Rights and Interests has also been prepared.

Below, a brief introduction to each chapter and section of the SDEIS and a preview of comment content is provided and presented in the order the comments appear in Attachment A. Where applicable, additional information relative to the submitted comments is provided for context and explanation.

Executive Summary

Comments on the Executive Summary include requests and recommendations for clarifying statements and/or data that represent high-level summary statements of effects analysis. Comments and corrections in the Executive Summary are applicable to all appropriate recurrences of similar content throughout the SDEIS. Every effort has been made to identify this related content wherever it occurs in the SDEIS and to provide appropriate and similar comments.

Chapter 1 – Purpose of and Need for Action

Comments on Chapter 1 include requests for clarifying the presentation of Issues and Indicators and consistently applying that approach to all occurrences in the SDEIS. Additional comments requesting citations or additional information to support Chapter 1 content are also included.

Chapter 2 – Alternatives Including the Proposed Action

Accurate representation of the alternatives - including the No Action Alternative - is fundamental to reliable and defensible impact analysis for the comparison of alternatives. Thus, comments on Chapter 2 provide clarifying information or recommendations to improve the technical accuracy of the descriptions of activities and actions associated with each of the alternatives.

Chapters 3 and 4, and Specialist Reports – By Resource

Geologic Resources and Geotechnical Hazards

Comments for this resource area are limited to Section 4.2 and include several minor technical clarifications. Though limited in number, comments on the tailings storage facility (TSF) embankment and TSF Buttress are important, and additional information is provided here and in Attachment A that will be useful in addressing comments.

Information presented in the SDEIS Table 4.2-1 is discussed below, and a table with revised values is provided for consideration and inclusion in the FEIS. The following paragraph provides the reasoning for these proposed revisions:

On pages 4-17 through 4-19 of Section 4.2.2.2, there are a number of updates and clarifications needed related to TSF design criteria and factors of safety. Most importantly, the section misstates the TSF dam seismic design criteria, which is the Maximum Credible Earthquake (MCE) not the 475-year. This seems to





be a carryover from the Plan of Restoration and Operations (PRO) where the 475-year criterion was intended to refer to certain short-lived interior impoundment slopes covering rocky hillsides, not the dam itself. As stated in the 2020 Feasibility Study cited in the response to Response for Additional Information (RAI)-116 (April 20, 2021), Perpetua Resources has since adopted the 2,475-year event for evaluation of those slopes, while retaining the MCE for all phases of the dam on a standalone basis (i.e., without accounting for the additional stability added by the Buttress). Additionally, the reported geotechnical factors of safety in the SDEIS do not match those previously furnished for the 2021 Modified Mine Plan (MMP), also in RAI-116, and may be leftovers from the PRO configuration of the Buttress. Suggested changes are included in Attachment A, with changes to Table 4.2-1 noted below.

Table 4.2-1 as presented in the SDEIS:

Table 4.2-1 Calculated Factors of Safety for the TSF Embankment and TSF Buttress

Case	Static Factor of Safety	Pseudo-Static (Operations) Factor of Safety	Pseudo-Static (Closure) Factor of Safety
TSF Buttress ¹	4.99	1.95	3.85
TSF Dam	4.09	3.17	1.81

Source: Tierra Group 2017

Factor of Safety Values are for maximum design heights of the embankment and buttress.

Minimum factor of safety for static load is 1.50; minimum factor of safety for earthquake load (pseudo-static) is 1.0 (IDAPA 37.03.05).

¹ The TSF Buttress has been expanded since the calculations were made; therefore, these calculations are conservative.

Proposed Revisions to SDEIS Table 4.2-1:

Table 4.2-1 Calculated Factors of Safety for the TSF Embankment with and without the TSF Buttress

Case	Static Factor of Safety	Pseudo-Static (2,475-year OBE) Factor of Safety	Pseudo-Static (MCE – Design Event) Factor of Safety
TSF with Buttress	5.85	3.61	2.05
TSF Dam Only (hypothetical)	1.81	1.51	1.12

Source: Tierra Group (2017 for methodology; 2021 for updated analyses for the 2021 MMP facility configuration)

Factor of Safety Values are for maximum design heights of the embankment and/or buttress. Shorter heights (e.g., earlier in operations) yield larger values.

Minimum factor of safety for static load is 1.50; minimum factor of safety for earthquake load (pseudo-static) is 1.0 (IDAPA 37.03.05).

Air Quality

Technical reviewers of Sections 3.3, 4.3 and the Air Quality Specialist Report indicate that the SDEIS accurately reflects the updates and revisions provided to the United States Forest Service (USFS) in previous reviews. Perpetua Resources appreciates the USFS' attention and consideration of comments on prior versions of the report, and general observations are that applicable sections of the SDEIS, and the





Air Quality Specialist Report in particular, represent an accurate description of work completed to assess the air quality impacts. Attachment A includes minor technical comments to ensure accuracy of the information included in the SDEIS.

Climate Change

Comments are provided for Sections 3.4, 4.4, and the Climate Change Specialist Report. The challenge in assessing this resource is inherent in the Forest Service guidance, which states: “It is not currently feasible to quantify the indirect effects of individual or multiple projects on global climate change; therefore, determining significant effects of those projects or project alternatives on global climate change cannot be made at any scale” (Section 3.4.3). Thus, the USFS is bound to inform its decision-making process “...qualitatively describing the type and extent of potential climate change impacts on the physical, social, and biological resources in the analysis area since information is not available to address such effects with quantitative certainty” (Section 4.4.1). Therefore, to support the USFS analysis, our comments focus on technical clarifications to the descriptions of the alternatives.

Soils and Reclamation Cover Materials

Comments on Sections 3.5, 4.5 and the Soils and Reclamation Cover Materials Specialist Report are provided and include technical clarifications and recommended language revisions for clarity. A few comments are broadly applicable to these sections of the SDEIS and are provided below:

The SDEIS references, in several instances, outdated versions of the Reclamation and Closure Plan (RCP). All references to the RCP should be Tetra Tech 2021a. The 2019 RCP has been superseded by the 2021 version which was revised based on the updated MMP (Refined Proposed Action [ModPRO2]).

Section 4.5 of the SDEIS describes a deficit in Growth Media (GM) volumes needed to successfully complete all reclamation and restoration activities associated with the MMP. Inconsistent with previous section statements in the SDEIS, Section 4.5 also describes, inaccurately, how the GM deficit will be offset. To enhance accuracy of the MMP and consistency, all SDEIS references to offsetting the predicted GM deficit using material other than unconsolidated glacial till and colluvium/alluvium from the Yellow Pine pit should be revised to reflect that the predicted GM deficit will be offset using Yellow Pine pit materials as stated in SDEIS page 2-14, 2-90, 2-113.

Perpetua Resources recognizes that existing TSRC within the Payette National Forest (PNF) and Boise National Forest (BNF), as calculated in the Soils and Reclamation Cover Materials Specialist Report (USFS, 2022) and illustrated in Section 4.5 of the SDEIS, are below the 5 percent threshold set in the PNF Forest Plan (Forest Service, 2003) and BNF Forest Plan (Forest Service, 2010). Perpetua Resources also recognizes the MMP includes dedicated facilities that will likely cause exceedance of the 5 percent threshold for TSRC, requiring a project specific amendment to the PNF and BNF Forest Plans (Forest Service, 2022). However, Perpetua Resources has developed the RCP so the majority of sitewide reclamation is achieved within a 50-year timeframe. Specifically, reclamation of approximately 20 percent, 40 percent, and 80 percent of the total area of planned new and re-disturbance associated with the Project will be initiated by project years 12, 16 and 25, respectively. The RCP applies a combination of quantitative and qualitative metrics of soil productivity, consistent with the BNF and PNF Forest Plans, that will be monitored to demonstrate that reclamation performance standards and bond release





criteria are met. Meeting these standards and criteria defined in the RCP would indicate that the site has been reclaimed and soil productivity, as defined in the BNF and PNF Forest Plans (GL-35), is restored, at minimum, to 40 percent of natural background soil productivity in timeframes that are much shorter than assumed in the SDEIS. Perpetua Resources requests revisions to this section that recognize the value of the MMP reclamation and restoration work in reduction of TSRC as described in the Forest Management Plan's definitions of TSRC and Soil Productivity (PNF, 2003, Amended 2010).

Noise

Comments on applicable SDEIS sections include minimal technical clarifications for Section 4.6 only.

Hazardous Materials

Comments on applicable SDEIS sections include minimal technical clarifications for Section 4.7 only.

Vegetation

Comments on SDEIS Sections 3.10, 4.10 and the Vegetation Specialist Report include requests for missing or updated references and clarification on descriptions of the effects analysis.

Also, review of other resource analyses and the Vegetation resource in particular (Section 4.10.5.2) note that: "Construction and operation of the mine could also affect long-term vegetation productivity by increasing sedimentation from erosion and increasing the amount of pollutants and fine-grained sediments delivered to the area via surface water runoff." Here and elsewhere in the SDEIS (e.g., Fisheries and Water Quality), statements such as these on potential impacts from increased sedimentation do not appear to account for (and do not describe or adequately describe) the restoration of Blowout Creek early in the Project, nor do they take into consideration all of the sediment control environmental design features built into the 2021 MMP. Reclamation of Blowout Creek in particular should be considered in impacts analysis in both the short- and long-term for applicable resources as it addresses what has been identified as the single largest sediment generator in the upper East Fork of the South Fork of the Salmon River drainage.

Wetlands and Riparian Resources

Comments are provided on all applicable SDEIS sections including Section 3.11, Section 4.11, and the Wetlands and Riparian Resources Specialist Report.

One persistent topic in sections addressing Wetlands is the absence of discussion on compensatory wetlands mitigation. In Section 4.11 Wetland and Riparian Resources, the author describes the impacts to wetlands in both acres disturbed and functions and values lost. In Tables 4.11-2 and 4.11-3, footnote #3 indicates: "Disturbance includes both temporary and permanent effects associated with transmission line construction." While Perpetua Resources acknowledges there will be temporary impacts, we are not willing to have them included with permanent impacts that have a compensatory requirement for mitigation. Perpetua Resources would like to know how the temporary impacts were calculated as we did not provide those acreage calculations, and, to the best of our knowledge, those have not yet been calculated. Table 4.11-4 identifies 196.9 acres of impacted wetlands. That calculation includes both temporary and permanent impacts, but this is not clear to the reader. If the reader is familiar with Perpetua Resources Conceptual Mitigation Plan for Streams and Wetlands, they will know that Perpetua





Resources is proposing to mitigate for approximately 150 acres of direct and permanent impacts to wetlands that includes their lost functions and values. Perpetua Resources opinion is that Section 4.11 poorly differentiates the temporary and permanent impacts to wetlands and this could be rectified by adding columns to Section 4.11 tables that show temporary and permanent impacts and their respective functions and values calculations. That way, the reader can cross reference the proposed permanent impacts to those identified in the Conceptual Mitigation Plan for Streams and Wetlands.

Wildlife

Comments on Section 4.13 and the Wildlife and Wildlife Habitat Specialist Report are provided and are varied. Several requests for clarification are related to the impact analysis and seek clear definition on the differentiation between impacts to habitat and species. Reviewers also note that clear definition of habitat “types” would be helpful to the reader to assess more accurately what is actually being impacted. A specific example of this ambiguity is illustrated by discussions on the North Idaho Ground Squirrel (NIDGS).

Based on 2018 and 2019 Perpetua Resources NIDGS field surveys, no NIDGS were observed and much of the modeled habitat designated as potentially suitable was not considered suitable or only partially suitable. The terms “suitable habitat” and “modeled habitat” are interchangeably used in some places, which is inappropriate application of the terminology; modeled habitat does not coincide with field verified suitable habitat in many cases. In addition, the SDEIS analysis relies on modeled habitat instead of the actual 2018 and 2019 field survey data. This approach does not adequately provide the correct context/details for the results in Table 7-3 from the Wildlife Specialist Report. Therefore, the information provided in Table 7-3 in the wildlife specialist report (excerpt below) can be misleading for what should be considered direct or indirect impacts on NIDGS.

To provide clarity to the reader, any discussion of impacts should be prefaced with the fact that there are no identified NIDGS in the analysis area. It should also clearly define (classify) and quantify the habitat included in Table 7-3 and within Section 4.13 of the SDEIS.

In addition, whereas the SDEIS includes a 1-mile analysis buffer around the modeled habitat area that was field surveyed, it should also recognize that the actual field surveys incorporated a 100-meter buffer around proposed Project disturbance; a value which was based on input from the USFS and United States Fish and Wildlife Service while the field survey methodology was being developed. Therefore, any reporting of indirectly impacted acreage should include a footnote or some other description acknowledging that this analysis method was changed, and that in much of the area, it is unknown whether suitable habitat exists between the 100-meter surveyed buffer and the 1-mile analysis area buffer. In addition, it is unclear in Section 3.13, Figure 3.13-3 what the justification or reasoning is for such a large buffer.

Finally, the No Action Alternative, as described in Section 4.13.2.1, includes an assumption of no NIDGS within an area of modeled habitat within the vicinity of the transmission line and associated access roads within the Operations Boundary, and thus concludes no impacts to NIDGS under the No Action Alternative. Within this same area, the activities for the No Action Alternative are very similar to those described in the 2021 MMP (i.e., operations and maintenance vs. reconstruction of the transmission line).





Therefore, if the No Action Alternative assumes no impacts due to lack of presence, then the same assumption should be applied to the action alternatives, and there should be no assumed direct or indirect impacts. If the author is suggesting direct and indirect impacts to modeled habitat from both the Johnson Creek and 2021 MMP, then those impacts would also affect the No Action alternative because of the same “anthropogenic influences” cited.

Timber

Comments on applicable SDEIS sections include technical clarifications for Sections 3.14 and 4.14.

Land Use and Land Management

Comments on applicable SDEIS sections include technical clarifications for Sections 3.15 and 4.15.

Access and Transportation

Comments on applicable SDEIS sections include technical clarifications for Section 4.16.

Heritage Resources

Comments on applicable SDEIS sections include technical clarifications for Section 4.17.

Public Health and Safety

Comments on applicable SDEIS sections include technical clarifications for Section 4.18.

Recreation

Comments are provided for SDEIS sections 3.19, 4.19 and the Recreation Specialists Report. These include technical clarifications, and recommended changes in wording to more accurately describe the Project alternatives. To offer additional context for some of these comments, information provided below clarifies these descriptions.

Section 4.19.2.2 2021 MMP - The description of the proposed 2021 MMP over snow vehicle (OSV) route between Warm Lake and Landmark is incomplete and therefore overstates the impacts. For example, the description of the OSV route includes the Cabin Creek Road/Johnson Creek Road segments but omits the segment that connects Johnson Creek Road to the Landmark-Stanley Road (Warm Lake Road-south of Landmark; page 4-535). With the omission of this OSV segment, the author incorrectly states “Plowing of the Burntlog Route and Warm Lake Road would cutoff direct OSV access to the Horn Creek Road, Sand Creek Road, and Warm Lake Road (east/south of Landmark) OSV routes from Johnson Creek Road, which would be the only publicly available winter route to the Landmark area as Warm Lake Road would be closed to public winter use. Perpetua Resources has always intended to maintain access to the Landmark-Stanley Road (incorrectly named the Warm Lake Road south of Landmark). This has an influence on the impacts analysis stated as “major, long-term, and localized.” With the correct route description and length applied, the impacts would be minor, short-term, and localized.

Additionally, in Section 4.19.2.2 (p 4-535, paragraph 5) and in the Specialist Report (p 69, paragraph 3) the impacts to groomed OSV routes east of Landmark and on the Burntlog Route corridor are overstated and don’t provide a full picture of how these routes will be managed as a result of the proposed changes to OSV access. It should be recognized that per the Payette Forest Plan, the concept of “no net gain” applies to OSV access. In short, an increase in OSV access in one location must be offset by removing OSV access





elsewhere. This would apply to the additional OSV mileage gained by using the 2021 MMP proposed OSV access route. OSV access east of Landmark would likely be removed from the grooming schedule to offset the previously mentioned increase per the Forest Service's "no net gain" policy. Additional information on this topic is available by contacting the Valley County Recreation Director. We suggest that the "no net gain" concept is important and of interest to the reader; it should be included in descriptions of changing OSV access.

Scenic Resources

Comments are provided in Attachment A for sections 3.20, 4.20 and the Scenic Resources Specialist Report. In addition to those comments, there are several general comments presented here regarding the analysis of effects to Scenic Resources in the SDEIS.

The term "industrial setting" is used throughout the scenic resources effects analysis. This term is not defined but is used to describe the future condition for a wide range of SGP features. While this term may be an appropriate descriptor for the active mine site or more particularly the ore processing facility area, its use to describe the (unpaved) Burntlog Route, other improved roads, and the transmission line seems inaccurate and indicates a greater level of change to scenic resources than what would actually occur.

On Page 4-572 there is a description of a 140-foot-tall road cut near the SGP. The SGP does not include a 140-foot-tall road cut. Where does the USFS believe this cut to be located?

The description of the transmission line through the Thunder Mountain Estates subdivision is inaccurate (Page 4-577). A new segment of transmission line would be constructed north of the Thunder Mountain Estates. Once the new segment is complete, the existing transmission line that passes through the subdivision would be removed.

In the scenic resources effects analysis, there are several places where construction of the transmission line describes the "grading" of the right-of-way (ROW). The transmission line, including both expansion of the existing line and construction of the new line, would not include grading of the ROW. Grading would only occur locally at work areas around structure locations and only at structures that are in steep terrain. Stating that the ROW would be graded significantly increases the perception of a greater level of impact to scenic resource than would actually occur.

In the analysis of impacts to scenic resources from KOP 16 Stibnite Gold Logistics Facility (Page 585) analysis of nighttime lighting did not appear to take into consideration the guidelines for protecting night skies required of SGP by the Valley County Conditional Use Permit. Specifically, Condition of Approval #5, "All lights shall be fully shielded so that there is not upward or horizontal projection of lights. The lights can only be a maximum of 20' in height and 3000 Kelvin." This requirement of the Valley County Conditional Use Permit should be considered in all future analysis of nighttime lighting effects.

Social and Economic Conditions

Comments including technical clarifications and requested wording modifications are provided for SDEIS Sections 3.21, 4.21 and the Social and Economic Conditions Specialists Report.





Special Designations

Applicable SDEIS sections have been reviewed and comments are provided for Sections 3.23 and 4.23.

Tribal Rights and Interests

Applicable SDEIS sections have been reviewed and comments are provided for Sections 3.24 and 4.24.

Chapter 5 – Cumulative Effects

Comments on Chapter 5 are included in Attachment A and include technical clarifications and recommended edits to wording for clarity. Also, Chapter 5 draws on many other topics included in the SDEIS, and thus numerous terms, abbreviations, and acronyms are included that may be unfamiliar to the reader. Several comments recommend clarification and definition of these phrases to better inform the reader who may not have read other applicable sections of the SDEIS.

Several comments address the term Reasonably Foreseeable Future Action (RFFA), and request clarity and definition in this section on what represents an RFFA. Related to this, several references to the Stallion Gold Horse Heaven Project are included in Chapter 5, and it is identified as an RFFA both for potential exploration and mining. This is wholly inaccurate, and all references to the Stallion Gold Horse Heaven Project as an RFFA should be removed from the SDEIS. The Stallion Gold Horse Heaven Project is not on the current PNF's Schedule of Proposed Actions (SOPA), and the tables in which it is mentioned provide no estimated dates of implementation. Therefore, the SDEIS should include no mention in this document unless the project progresses to submittal of a proposed action.

Appendix A - Payette National Forest and Boise National Forest Land and Resource Management Plans Consistency Review and Amendments

Comments provided for Appendix A include technical clarifications including several requests to verify that the purpose and need statements included in the Appendix are consistent with those presented in Chapter 1.

Thank you for considering Perpetua Resources' comments. Please contact me if you have any questions.

Sincerely,

PERPETUA RESOURCES IDAHO, INC.

Alan Haslam

Vice President – Permitting

Enclosure:

Attachment A

