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INSERT DATE

U.S. Forest Service, Payette National Forest
Attn: Linda Jackson, Payette Forest Supervisor
Stibnite Gold Project
500 North Mission Street, Building 2
McCall, ID 83638

RE: Comments on the Payette and Boise National Forests' Supplemental Draft Environmental Impact Statement for the Stibnite Gold Project

Dear Ms. Jackson:

The Society for Mining Metallurgy & Exploration, Inc. (SME or Society) has reviewed the October 2022 Supplemental Draft Environmental Impact Statement (SDEIS) that the Payette and Boise National Forest (Forest Service) has prepared for Perpetua Resources Ltd.'s (Perpetua's) proposed Stibnite Gold Project (SGP) in Valley County, Idaho. Based on our review, SME is presenting the comments below in response to the Forest Service's request for public comments on the SDEIS. As discussed below, if Perpetua receives the necessary authorizations and permits to conduct mining operations from the Forest Service, the U.S. Army Corps of Engineers, and several Idaho State regulatory agencies, the SGP would become the Nation's only domestic producer of antimony, a critical and strategic mineral on which the United States is currently and completely reliant on imports, mostly from China.

Perpetua's mine plan for the SGP integrates extensive site remediation measures that will remedy environmental and wildlife issues associated with the federal government's emergency mining that took place during World War II and the Korean War. These mining activities supplied the U.S. military with much of the antimony and tungsten needed for these war efforts. Unfortunately, these pre-regulation mining projects created mine wastes and other features degraded water quality in the area watersheds preventing fish migration. SME fully supports Perpetua's proposal to improve water quality, remove the barriers that block fish migration, and to restore many miles of stream and aquatic habitat.

SME is a professional society (nonprofit 501(c)(3) corporation) whose more than 14,000 members represent professionals serving the minerals industry in more than 100 countries. Its members include engineers, geologists, metallurgists, educators, students, and researchers. The Society also advances the worldwide mining and underground construction community through information exchange, education, and professional development. In supporting responsible

mining, SME seeks to educate lawmakers, policymakers, and the general public on the complex technical issues associated with mineral development through technical briefing papers, studies, and scientific and engineering articles. In October 2020, SME submitted comments on the Draft EIS for the SGP. The following points augment our October 2020 comments.

The Nation Urgently Needs the Antimony to be Produced from the SGP

The U.S. Department of Defense's (DOD's) December 19, 2022, press release¹ stating that Perpetua is the recipient of a \$24.8 million Title III Defense Production Act (DPA) grant to facilitate completion of the permitting process for the SGP underscores the importance of this project and the urgency to start producing antimony from the SGP. The following excerpts from this press release clearly demonstrate that the SGP is a project with national significance:

“The DPA Investments Program will provide \$24.8 million to Perpetua to complete environmental and engineering studies necessary to obtain a Final Environmental Impact Statement, a Final Record of Decision, and other ancillary permits.”

“This investment is essential to ensure the timely development of a domestic source of antimony trisulfide for the manufacture of small arms and medium caliber cartridges, as well as many other missile and munition items.

“This action reinforces the Administration's goals to increase the resilience of our critical mineral supply chains while deterring adversarial aggression.”

“Perpetua's Stibnite-Gold Project produced antimony trisulfide for the U.S. ammunition industrial base during World War II and the Korean War, and it is the sole domestic geologic reserve of antimony that can meet Department of Defense (DoD) requirements.”

SME's October 2020 comments on the Draft EIS focused on the need for a domestic source of antimony, provided detailed information on the U.S. reliance on foreign sources of antimony, and documented that antimony is used in a variety of civilian and military applications. The statement in DOD's announcement of the Title III DPA award to Perpetua that the Stibnite antimony deposit is the “*sole domestic geologic reserve of antimony that can meet Department of Defense (DoD) requirements*” augments SME's understanding of the special importance of this deposit and puts the Nation on notice that development of this project is critically important to maintaining our national security and defense systems.

Our October 2020 comments attached a copy of SME's Technical Briefing Paper entitled “*Critical and Strategic Minerals Importance to the U.S. Economy (January 2020)*”. In January 2022, SME published an updated paper entitled “*Critical and Strategic Minerals Importance to*

¹<https://www.defense.gov/News/Releases/Release/Article/3249350/dod-issues-248m-critical-minerals-award-to-perpetua-resources/>

*the U.S. Economy*²” in which we emphasize our support for “a streamlined U.S. permitting process for critical and strategic minerals and the study of options to remove impediments to the timely issuance of such permits.”

According to the U.S. Geological Survey’s (USGS’) 2022 Mineral Commodity Summaries³, no marketable antimony was mined during 2021 in the U.S. We imported 84 percent of the antimony metal and oxide we needed, with most of the imports coming from China. This statistic coupled with DOD’s characterization of the SGP as the only antimony reserve that meets the military’s technical specifications clearly means there is urgency to put the SGP into production.

Since publication of the Draft EIS, Congress and the Biden Administration have enacted laws and developed policies focused on reducing the country’s dangerous alliance on foreign adversaries like China for critical minerals and the compelling need to strengthen domestic minerals supply chains. The following is a chronological list of the recently developed critical minerals law and administrative policies:

- Executive Order 14017 “On America’s Supply Chains,” February 24, 2021;
- The White House’s 100-day Supply Chain Review Report in response to Executive Order 14017, “Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth,” June 2021;
- The Infrastructure Investment and Jobs Act of 2021, which includes a section on critical minerals (Section 40206) that directs the Secretaries of the Interior and Agriculture to prepare a report to address permitting delays and that identifies the Federal permitting process “as an impediment to mineral production and U.S. mineral security;”
- President Biden’s use of his authority under Title III of the Defense Production Act directing the Department of Defense to increase domestic mining and processing of critical minerals that are used for storage batteries (March 2022); and
- The Inflation Reduction Act of 2022, which ties electric vehicle tax credits to the use of domestically, mined battery metals.

One of the recommendations in the 100-day review report is to evaluate the potential for re-mining of historic mine wastes as a source of critical minerals. That is exactly what Perpetua is proposing to do at the SGP where some of the legacy mine wastes will be reprocessed for their residual gold and antimony content. The second re-mining component of the SGP involves removing low-grade or unmineralized mine wastes that are currently leaching metals into area streams and degrading water quality and placing them in modern, engineered facilities designed to isolate these materials from the environment.

²<https://smenet.blob.core.windows.net/smecms/sme/media/smeazurestorage/about%20sme/technical%20briefings/criticalmineralsfinal-01182022.pdf>

³ <https://pubs.er.usgs.gov/publication/mcs2022>

The SGP's position as a prototype-remining project is another compelling reason for the Forest Service to approve this project as soon as possible. Putting this project into production could serve as a "proof of concept" demonstration for the technical value of two important concepts: 1) that remining can improve environmental conditions at legacy mine sites; and 2) that remining can produce much-needed domestic sources of critical minerals. It is possible that successful permitting, construction, and operation of the SGP could stimulate private-sector commercial interest in other legacy sites where remining might be feasible.

The Final EIS is an Opportunity to Clarify the Environmental Benefits that Will Result from the SGP

SME certainly appreciates the difficulty in writing and editing a massive document like the SDEIS to ensure its internal consistency. During our review of the SDEIS, we found some inconsistent and therefore confusing statements pertaining to the improvements to surface water quality downstream from the SGP that should be eliminated and clarified in the Final EIS. We suspect that the inconsistencies are largely due to the SDEIS being written by a committee, with different people writing different sections of the document.

Fortunately, addressing these inconsistencies and clearing up the resulting confusion is mainly an editing task because the data presented in the SDEIS clearly show that the SGP will substantially improve water quality. This outcome is obvious in Figures 4.9-21 and 4.9-25 for the YP-SR-2 monitoring point, which is downstream from the project. However, some of the text in Section 4.9 as well as in the Executive Summary do not clearly make the point that the post-operational water quality at YP-SR-2 will contain 40 percent less arsenic and 58 percent less antimony compared to the current degraded baseline conditions due to the presence of mine wastes in or near streams in the project area. The numerous restoration measures to address legacy mine wastes included in the MMP will significantly improve water quality, as shown in these figures. The following excerpts from the SDEIS illustrate some of the inconsistencies:

"Downstream of the project on the East Fork SFSR at node YP-SR-2 (below the confluence with Sugar Creek), predicted surface water chemistry *is largely unchanged from existing conditions* with some variability in predicted antimony, arsenic, and mercury concentrations during the operating and initial closure period (**Table 4.9-21** and **Figure 4.9-25**)." (Page 4-251, italics added for emphasis, bold in the original.)

"Under the SGP operations and closure, water quality of surface flow departing from the Operations Area Boundary would be the same or better than existing baseline conditions; therefore, there would not be impacts to the quality of downstream waterways..." (Page 4-522)

Additionally, SME strongly encourages the Forest Service to edit the Executive Summary in the Final EIS to eliminate inconsistencies and improve the clarity of this summary. The Executive Summary in the SDEIS does not fully explain or highlight the environmental improvements that will result from the SGP. Instead, it emphasizes the negative impacts and downplays the positive impacts. Because most people will not have the time to read the Final EIS, they will likely rely on the Executive Summary to gain an understanding of the proposed project and associated

impacts. Therefore, the Executive Summary in the Final EIS needs to be edited to provide a more comprehensive and balanced discussion of project impacts that gives equal weight to the net positive and net negative impacts.

Public Comments on the Draft EIS have Improved the SGP

SME commends Perpetua and the Forest Service for going the extra mile to respond to public comments received on the 2020 Draft EIS and to use these comments to refine the SGP Plan of Operations and Proposed Action. The following is a list of some of the refinements to the project that Perpetua made in response to the comments on the Draft EIS:

- Developed management plans for aquatic habitat monitoring, development rock handling, environmental monitoring, emergency response, explosives and blasting, fishways operation, solid and hazardous waste, spill prevention and response, transportation, water quantity and quality;
- Responded to requests for more information on the design and construction of the tailings embankment to substantiate that it is designed using downstream construction methods;
- Added a composite liner system and underdrain to the tailings impoundment;
- Added Stibnite Lake to the closure plan for the Yellow Pine Pit to replace lake habitat and control stream temperature fluctuation;
- Included an active water treatment facility that will operate throughout the mine life and during mine closure until the tailings are consolidated and water treatment is no longer necessary, which is estimated to occur in Mine Year 40;
- Performed additional waste characterization tests to verify the test results presented and evaluated in the Draft EIS;
- Conducted a hydrologic particle tracking study to ensure groundwater discharges to surface water are completely integrated into the Site Wide Water Chemistry model;
- Eliminated the Fiddle Creek Development Rock Storage Facility, which reduces the SGP's surface disturbance footprint by 168 acres;
- Collected additional data to revise the site hydrological and water balance models;
- Installed a new groundwater pumping well and conducted additional hydraulic aquifer tests to refine the understanding of the hydraulic properties in the project area;
- Increased the sensitivity of the meteoric water balance model to account for variations in elevation, topography, and micro-climate; and
- Updated the Site Wide Water Chemistry model using the new data listed above.

Although both the Forest Service and Perpetua should be commended for taking the time and making the effort to collect new data and to incorporate them into the SDEIS, SME notes that the environmental benefits associated with these refinements have cost time and money and delayed the SGP by at least two years. Based on the lengthy EIS process and the enormous amount of baseline data collected and engineering studies performed for the project, SME urges the Forest Service to publish the Final EIS as soon as possible. Based on the DOD's December 19, 2022 announcement about the Title III DPA award and the unique characteristics of the Stibnite antimony deposit, it is abundantly clear that the Nation needs the antimony that will be produced from the SGP. Moreover, the communities near the project have waited long enough for the jobs, tax revenues, and other socioeconomic benefits that the SGP economic engine will create for central Idaho.

Both the Johnson Creek Alternative and the No-Action Alternative are Untenable

SME strongly supports the Forest Services' identification of the MMP (Perpetua's refined Plan of Operations involving the use of the Burntlog Road as the main project access route) as the Agency Preferred Alternative, and encourages the Forest Service to identify this alternative as the Agency Preferred Alternative in the Final EIS. Based on the information presented in the SDEIS, this alternative is much safer and environmentally preferable than the Johnson Creek Transportation Route Alternative evaluated in the SDEIS. The proximity of the Johnson Creek route to fish-bearing streams would substantially increase impacts due to sedimentation. Additionally, any reagent or fuel spills could have a much more serious impact to aquatic resources compared to a spill on the Burntlog Road. Finally, the large avalanche paths along the Johnson Creek route make it an unsafe choice for routine winter use.

Similarly, the No Action Alternative is not viable and must not be selected in the Final EIS. The No Action Alternative should be called "the Do Nothing Alternative" because it would preserve the degraded *status quo* and forego the environmental restoration benefits that are an integral component of the MMP. The No Action Alternative could also be called the "Put the Country at Risk Alternative" because it would interfere with the military's ability to secure the antimony in needs for critically important national defense applications.

The MMP represents a unique opportunity to leverage private-sector resources – the \$1.1 billion that Perpetua is proposing to invest to restore and redevelop the Stibnite Mine – to address the environmental degradation and the public problem at this legacy mine site. It is hard to imagine any circumstance in which the Forest Service could justify selecting the No Action Alternative, which would clearly be the wrong choice for the environment, the community, and the country.

Conclusions

The MMP presents the public with a unique opportunity to capitalize upon the environmental restoration measures that are an integral part of Perpetua's plans to redevelop this legacy mine site and to provide a domestic source of antimony that the U.S. military desperately needs. As discussed above, the environmental benefits are evident from the data (mainly the figures and tables) in the SDEIS but are not always clearly or consistently discussed in the text of the SDEIS.

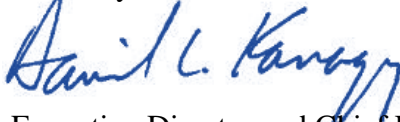
Addressing the inconsistencies and clarifying the text is mainly an editing task that can be accomplished in the Final EIS using the data in the SDEIS, like the information presented in Figures 4.9-21 and 4.9-25.

Idaho and the entire country are fortunate that Perpetua is proposing to use over \$1 billion of its private-sector resources to redevelop the Stibnite Mine and remediate what is currently a public problem. Developing the SGP means that water quality and stream and aquatic habitats can be substantially improved at Stibnite without involving any taxpayer funds. An equally important aspect of the SGP is that the Stibnite ore deposit has unique characteristics that satisfy the military's needs.

It is time for the Forest Service to publish the Final EIS and issue a Record of Decision authorizing development of the SGP. This is the only viable course of action to correct the environmental problems stemming from the legacy mining activities at Stibnite and to provide our military with an urgently needed source of domestic antimony.

SME thanks the Forest Service for this opportunity to comment on the SDEIS. Please do not hesitate to contact me if you have any questions about our comments or are looking for technical professionals with expertise on a large range of important mining issues to assist with your evaluation.

Sincerely,

A handwritten signature in blue ink that reads "David L. Karagy". The signature is written in a cursive style with a large initial 'D'.

Executive Director and Chief Executive Officer