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Comments: Hello, I appreciate the opportunity to share with you my concerns and to request further study into several aspects of the Hermosa mining project and its effect in our community and on public lands. An independent Regional Impact Study has not been done and NEEDS to be thoroughly complete before any permitting is done.

It appears from the maps that I have seen that there will be over 300 acres within the national forest that will become inaccessible to the public for the "temporary " duration of the mine operations, This is a region with avid outdoor enthusiasts, hikers, horseback riders, mountain bikers, birders and off-road vehicle users. I am concerned about the availability of public lands for public use. Along with this I am wondering about the safety of the public sharing scenic highway 82 the forest roads and public lands with mining vehicles. The safety aspect of this should be investigated as well as the availability of public land for recreating. Consultation with ADOT is essential to ensure safety and an impact report needs to be made available to the public.

I am also concerned about the possibility of dry-stack tailings storage on USFS land. The tailings are filled with toxic materials. In our arid climate it is likely that wind events will disburse these contaminants into our air. When asked about dust suppression specifically at the tailing site, I was not given a specific answer other than water will be used. Is this a guy with a garden hose? Sprinklers? If the point of Dry-stack is to eliminate water and compress then why would water be added? It is illogical. According to S32 info, the tailings stacks will be up to 6 stories high, the dust/windborne dispersion at that height really needs to be addressed more thoroughly. The EPA needs to be consulted and issue a report on this.

Public health often suffers in regions with extractive industries. I am especially concerned about levels of lead, zinc and manganese in the air, water and soil. I believe the "self-monitoring" by s32 is inadequate. EPA needs to provide greater oversight to ensure public health and safety. Manganese needs to also be monitored and although not regulated it is classified as a hazardous substance and parameters for its monitoring need to be established to protect the public.

Subsidence (Cone of depression/devastation) is a concern. South32 mentions it in their literature and promotional videos but the actual devastation to both public and private lands surrounding this issue has not been adequately investigated and more study needs to be done. The size of this subsidence is extreme. How will that, coupled with the lateral tunnels and blasting affect the geologic stability of the region? How will this cone of depression affect the biodiversity of the area? I direct you to the excellent article in the Patagonia Regional times regarding this. <https://patagoniaregionaltimes.org/cone-of-devastation/>

Water issues are huge in Southern Arizona. The mine's plan to dewater the ore site (and the mountain) and then recharge treated water into Harshaw, Alum, and the RIB's on USFS land is a shocking display of lack to foresight. The unknowns surrounding this activity are many. Will the treated water actually recharge the aquifer? Will erosion from higher water volume in the impaired waterways cause greater downstream contamination? How will seeps and springs be affected? How will local wells be affected? How will native plants and animals be affected by a different water profile and flow? How will flood and flow in Patagonia be affected? All of this needs to be investigated thoroughly by independent entities and not left to chance or to S32's optimistic models. . At other mine sites around the world, most notably in their home country of Australia, S32 has been very unwise and imprudent with water resources. The lack of foresight and "extract at all cost" mentality permanently damaged seeps and streams of Sydney's water catchment and had it not been for a single hydrologist sounding the alarm, they were in danger of breaching the dam above Sydney.

<https://protectourwateralliance.org/2023/04/04/media-release-new-south32-report-details-permanent-damage-to-swamps-and-creeks-by-dendrobium-mine/>

[https://www.abc.net.au/news/2022-06-24/dendrobium-coal-mine-extension-impact-on-sydney-water-supply/101179096?utm\\_campaign=abc\\_news\\_web&utm\\_content=link&utm\\_medium=content\\_shared&utm\\_source=abc\\_news\\_web](https://www.abc.net.au/news/2022-06-24/dendrobium-coal-mine-extension-impact-on-sydney-water-supply/101179096?utm_campaign=abc_news_web&utm_content=link&utm_medium=content_shared&utm_source=abc_news_web)

Granted our situation is not identical but the mindset and practices of an organization are not likely to change. The lack of hydrogeological engineering data is astounding in the MPO. This needs to be addressed and thoroughly studied before permanent damage is done to the entire region.

Light pollution is another problem and area of concern. The world-class observatory at Whipple will likely suffer greatly by the 24/7 impact of the mining operation. Hundreds of millions of dollars in equipment and the research of countless scientists depend on the dark skies of the region not to mention the nocturnal habits of the endangered yellow-billed cuckoo, Mexican spotted owls, Jaguars and other big cats. Consultation/investigation must take place with scientists at Whipple observatory and the Smithsonian/Harvard Center for Astrophysics to determine how the dark skies will be impacted. <http://linmax.sao.arizona.edu/FLWO/LIGHT/canoapub.htm> Full scale study by experts in the various endangered species of the area needs to be done to determine the effect mining activity will have.

The transmission line is another problem. The aesthetics of an above ground line, especially on USFS land are abhorrent, it will interrupt trails thus impinging on the public's ability to enjoy PUBLIC LANDS, however, the great FIRE DANGER posed by this line is the real red flag. Lessons need to be learned from Paradise, Ca., Lahaina, and other areas that have experienced devastating fires sparked by electrical lines. In this arid, rural landscape we all know how easily fire can start and spread. There are other transmission line concerns and I would direct your attention to the letter from Marshall McGruder former Energy Commissioner for the area to AG Mays (attached)

Aside from this, southern Az is a seismic region, (which will likely be exacerbated by lateral tunnels, cone of depression, blasting etc) the potential for seismic activity has not been addressed in the MPO and a study needs to be completed to assess this danger. In 1877 (Just after our current mining law went into effect) this region experienced a 7.2 earthquake. A geological seismic study needs to be done and contingency plan needs to be developed. The public needs to be made aware of the potential for increased seismic activity.

The carbon footprint of the Hermosa project has not been calculated and needs to be. With 21st Century environmental challenges, the community Federal, State and local Governments need to know the cumulative carbon footprint of this project. The emissions from mine venting, diesel vehicles, 50 gas powered turbines, ore processing and transport, blasting, doubling of the county's electrical usage etc...all need to be considered and quantified before moving forward.

Another area that needs to be addressed is environmental injustice/justice. Best practices need to be followed and at this point they have not. Community engagement/outreach within the Spanish speaking community (78.8% of the population of Santa Cruz County) has been minimal. The community needs to be informed of the real environmental and health risks involved in this project and not just the flashy propaganda put out by south 32. Consultation and reports from independent Environmental Justice Experts need to be made available to the community.

A regional impact study also needs to address the effect the mining activity will have on the nature based economy/eco-tourism of the region. This is a fast growing and desirable sector of Santa Cruz County's economy. The economic detriment the mine will cause needs to be quantified and thoroughly assessed.

Another issue that has not been fully investigated is the actual need for these "critical minerals". Is this just a green washed, political sound bite? According to several sources, the manganese extraction at the hermosa site will meet only about 1% of the need. Meaning the US will continue to be reliant on foreign sources of battery grade Manganese. The lead and zinc will likely (according to recent S32 comments) be transported to the port of Guaymas and shipped to China for further processing. The actual need and how this project fulfills the National need must be investigated, assessed, quantified and reported accordingly. Where will the ore end up? It has not been specified. How is this fulfilling a critical need in the US? What are the alternatives? With the EV market changing constantly and new technologies coming forward at a breakneck pace, perhaps these minerals are not as critical as they were thought to be several years ago when this project was first in the planning stages? Is this truly necessary and is the environmental cost within the sky islands worth the destruction caused by this project?

Battery grade Manganese processing has its own set of challenges and environmental issues. The health effects of manganese over-exposure need to be considered and the risks made known to the community. Processing must not take place ANYWHERE in Santa Cruz County. The public health and environmental issues surrounding manganese processing are well documented and must be analyzed carefully.

<https://www.ncbi.nlm.nih.gov/books/NBK560903/> Because of community outcry, South32 has been reluctant to identify a site for processing. I am vehemently opposed to any manganese refining/processing in the County.

The biodiversity of the region needs to be more adequately studied by independent researchers. We know there are over 110 endangered species of flora and fauna in the region. The sky islands are one of the 5 most biodiverse regions on earth and one of the most threatened. The impacts of the project on biodiversity need to be addressed in a thoughtful and precise manner.

The environmentally negative force multipliers in this project are extreme. A regional impact study needs to be done taking into account the complete cumulative effects of the Hermosa project on the region. It is unthinkable that a project of this size and scope, utilizing public lands in an environmentally sensitive region, would move forward without adequate regional impact studies. The unknowns of this project are many. South32 needs a more comprehensive MPO with real data...and where that is impossible, site specific modeling.

The reclamation/restoration/mine closure plan needs to be better funded. The precise amounts at each stage of the project need to be calculated appropriately. How much goes to USFS, to the State of Az, to ADEQ to Santa Cruz County. What, if any, reparation funds have been set aside for individual community residents/businesses that suffer health (physical and mental), wellness, property (including well water), livelihood damage as a result of South32 Hermosa? What form are the amounts in; bonds, cash reserves, budgeted based on future profits? What are the guarantees anything will be available at mine closure/abandonment of the project? This needs to be researched, addressed and the amounts made public. Any item that is budgeted but does not have a current source of funding needs to be addressed and considered suspect. "Future earnings" is not an adequate guarantee of funding.

The destruction of our wild lands must not continue. The 1872 Mining Law needs to be amended to reflect a 21st century mindset and understanding of the environmental costs of extractive industries.. Until such time as that occurs it is incumbent upon you the USFS to protect the Public Lands with which you have been entrusted and to stay true to your motto to be "Caring for the Land and serving people."