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Organization:

Title:

Comments: I have been a resident of Santa Cruz County for 17 years. As a board member of Friends of the Santa Cruz River, and a member of a sustainable community and EcoVillage for 30 years, I am fortunate to be an integral part of the cohesive network of people who work tirelessly to protect this watershed and stunningly diverse bioregion. As a Hospice chaplain, I am afforded the honor of being connected with families throughout the entire region, which also enhances my belief that the people in this place do not deserve to live in the long term reality of being in a "sacrifice area" so that manganese and zinc can be mined and processed domestically. I see this proposal (to extend their operation into public lands) as a short term gain for South 32 greed - made possible by America's misguided agenda that views electric vehicles as a silver bullet to alleviate climate change -no matter the cost to people and the environment. This compartmentalized thinking is the problem.

I trust you will diligently study all of the public's individual and organizational concerns in the EIS for the Hermosa Critical Minerals Project. Based on my attendance at many meetings about this over the past year - and research and tracking of South 32's lack of honesty and transparency, I have serious concerns for my family, my community, my neighbors and the beautiful place we call home.

Here are my concerns and requests for specific and bona fide studies to be done.

Water:

A comprehensive groundwater assessment before proceeding with the mine's plan of operation is essential. Your information on this project raises the possibility that pumping high volumes of treated groundwater into an ephemeral waterway may increase the evaporation rate of water meant to recharge the aquifer. The county's last comprehensive groundwater assessment was completed many years ago. The people, plants, and animals living here have a right to expect the water being discharged from the mine, flowing through the areas where they live, and recharging the aquifer they depend on to be free of pollutants. Given the high volume of water to be discharged on a daily basis, I think it's important for the health and safety of both the public and the ecosystem to monitor the water with more frequency and at more locations than once every ninety days at a single location. Given the global safety record of South32, this is vital. I would like to see the USFS consider collaborating with one of the citizen groups monitoring different parts of the watershed (such as Friends of the Santa Cruz River and Friends of Sonoita Creek) given that ADEQ uses some of their data.

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 of 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.

The Hermosa Project's continued release of treated water into area watercourses, will foreseeably have impacts on the region's watersheds and may affect water quantity, quality and availability for humans and wildlife, while also increasing flood risk. These impacts are likely to be short-term during construction and mine operation, and also long-term during mine reclamation and closure. Please study broadly and in detail the impacts the Hermosa Project will have on our area's water resources. A Harshaw Creek/Alum/Flux Total Maximum Daily Load (TMDL) study, and a Comprehensive Surface and Groundwater Study (CWS) on Harshaw Creek are preferred but not exhaustive study recommendations.

#### Public Health:

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.

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.

#### Ecosystem Protection:

Ecosystem services are the resources and processes that the environment supplies to support life and human well-being. I am primarily concerned with the health of our area's ecosystem. The Hermosa Project may impact our area's ability to function ecologically and provide ecosystem 'services' to our community. Ecosystem services include clean and available water, clean air, and a thriving and biodiverse wildlife population.

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 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. Also please study the harm that will come from increasing 5G in the region.

#### Environmental Justice:

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.

#### Eco-tourism:

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.

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."

I hereby incorporate the comments submitted by Patagonia Area Research Alliance, Sky Island Alliance, and Center for Biological Diversity, and other conservation organizations.