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My Comments to the Forest Service Scoping Hermosa Critical Minerals Project #65668

Mining Traffic Impacts: Tourism, Recreation, and Nature-based Business

Eastern Santa Cruz County is a tourist destination for bird watchers, horseback riders, cyclists, hikers, boaters, fishermen, hunters, rodeo and fairground events, and wineries and distilleries. Many people also travel here to escape the heat in Phoenix, Tucson and surrounding areas to enjoy the natural beauty and wildlife of the area. The noise and traffic generated from a huge industrial mining operation is not compatible with tourism and will likely result in a loss of income to our unique nature-based businesses and compromise our rural character. The Arizona Office of Tourism promotes tourism in the area to include worldwide marketing of our American Viticultural Area recognized and designated by the US Treasury Department and one of only three in the state based on the unique soil, climate, and growing conditions producing distinctive wines.

Dos Cabezas, Hops and Vines, The Meading Room, Rune, and Hannah's Hill are all directly off SR-82 on the span South 32 intends to use for mining traffic and ore trucks which creates a concern for tourist traffic ingress/egress to and from these establishments. The route is two lanes with large hills and limited visibility at places - Rune Winery has little visibility of traffic westbound on SR 82 which could cause a vehicle to pull out in front of a mining ore truck. There are over 20 wineries and several independent vineyards, that all require access via SR 82, elevating the probability of serious or fatal accidents. Also, Santa Cruz County is looking at ways to expand our tourism industry into the western part of the county which will increase traffic on SR 82 all the way to Nogales on the long-term preferred route cited by South32.

To protect the safety of our residents and our tourists, to preserve our natural environment and scenic highways (which draws people to the area) and mitigate negative impacts on our nature-based economy, I recommend an alternative and permanent route for South32 to travel south from the mine to Lochiel using already established Forest Service roads and re-open the border crossing. This alternative could better align with potential congestion on SR 82 in the Nogales area and presents itself as having the least impact on the bulk of the population and visitors in surrounding areas. This will also allow our historic and popular Circle Z Dude Ranch to continue bringing guests via horseback into the National Forest on established trails. Lastly, this alternative may also better align with movement of the ore by rail or ship from Mexico to wherever the ore will be processed.

Water Quality, Quantity, and Sustainability

My mother wisely said that water is the new "gold" for Arizonians who have been grappling with extensive drought conditions and severe water shortages for years, alongside a rapidly depleting groundwater supply. Across the state, wells are drying up or drilled deeper, we have seen areas depleted of water and areas sinking from groundwater depletion. Santa Cruz County has a history of wells drying up and potable water trucked in causing major sustainability issues as we face industrial and population growth. For 2024, Arizona will operate under Tier 1 water shortage conditions. According to the Associated Press, Arizona could see an 18% cut from its total Colorado River water allocation as a result.

Last year, Arizona Attorney General Kris Mayes announced that drill permits for a Saudi Arabia-owned alfalfa farm in La Paz County were revoked. Two deep-water wells were approved for Fondomonte Arizona LLC eight months prior, which Mayes called "unconscionable" given the state's need to preserve water. "For too long, our state leaders have been asleep at the wheel while this crisis has only grown," Mayes said in a tweet. "Well, with new state leadership and the ever-increasing urgency of the issue, now is the time for the state government to get serious about regulating water across Arizona." Mayes stated the most crucial issue facing our state is water and has made this her top priority.

Now we have another foreign company preparing to both dewater their underground mining operation and use a significant amount of Arizona water in their daily operations. They will profit significantly from our water and natural resources and no royalties will be charged back to them. Extracting and using this water for their profit

flies in the face of the water crisis identified by the AG.

I believe the Forest Service should study this loss of our natural resource very carefully and determine long- and short-range consequences. The mine has been unclear on exactly how much water they will use in their operation and it's time pinpoint the numbers and weigh the consequences. If the Forest Service denies the use of the people's land, this will reduce the mine's water requirements.

Also of great concern is the impact of dewatering the mountain and dumping it back on the surface. What are the impacts on seeps and springs, Sonoita Creek, the potential for flooding and closed roads, and the potential for pollution impacting humans and wildlife? Serious questions that need to be answered.

There are growing concerns about "forever chemicals" on an international, national and state level. PFAS can be found at mining sites both due to their use in industrial processes, as well as in AFFF. The assessment, management, and remediation of environmental releases of PFAS from mining facilities needs to consider the unique receptors and exposure pathways associated with these remote sites, as well as the related logistical challenges for assessment and remedial approaches. As several jurisdictions are advancing regulation around the use of PFAS and its presence in environmental media, mining facilities will need to consider the potential impacts and liabilities associated with PFAS use at their operations. PFAS has been measured in water supplies across the US. A variety of adverse health effects have been associated with PFAS exposure, including liver damage, decreased fertility, thyroid disease, cancer, decreased immunity, and more.

Here is a link to a professional paper on PFAS and the Mining Industry: Understanding the Challenges <https://www.mineconferences.com/bluepixeldesign/wp-content/uploads/2022/07/47.-Krista-Barfoot-PFAS-and-the-Mining-Industry-Understanding-the-Challenges-Final.pdf>. This paper reviews PFAS use within the mining industry, site characterization challenges, potentially relevant exposure pathways for receptors, and remedial options, as well as the status of PFAS regulation.

PFAS may also be present at mining sites for uses that are ancillary to the mining operation, such as PFAS-containing AFFF for fire suppression/firefighting activities, cleaning of metal surfaces, and use as a foaming agent in drilling fluids, paints and coatings, and so on. In the case of AFFF, fire suppression systems often need to be tested annually, and traditionally this has involved discharge of AFFF to the ground surface. Mining sites typically have fixed fire suppression/fighting systems that can spray suppressants for long distances from a fixed location, meaning impacts can be widespread.

Recommend the Forest Service require assessment, management, and remediation of environmental releases of PFAS from mining facilities. This should be accomplished by a neutral third party vs. the fox guarding the hen house....

Air Quality

James Temple of MIT Technology Review wrote, "Mining proposals are the weak point where climate alliances will often fray, because blasting holes in the earth always comes at some environmental cost. Mines pollute the atmosphere through carbon emissions which contribute to climate change. Mining in general creates a vast amount of airborne particulate matter from blasting, drilling, hauling, crushing, milling, and shipping ore. Often exposure to the contaminates is linked to serious health problems.

The rural character of our County includes a vast amount of dirt roads creating plumes of particulate matter that can be seen for miles. This matter is widely dispersed due to the high winds in our area and continual issuance of Wind Advisories. I have been knocked down by the winds that were gusting at 65 mph recently on my property in Elgin. I understand that the mine has determined that particulate matter will not reach any further than their fence line, but I do not believe that it is possible to contain, especially small particulate matter, within that perimeter. South32 plans to mine for manganese in our mountains and they have a poor reputation of manganese illnesses in their workforce abroad, including others living near the site. Dr. Brad Racette briefed the South32 Advisory Panel on his extensive studies at home and abroad on the dangers of manganese and serious and often irreversible health impacts on humans. Here is a link to the transcript from page 7-22:

<https://sccadvisorypanelonsouth32hermosa.com/wp-content/uploads/2024/03/SCCA-Panel-Meeting-January-17-2024-v2.pdf>

I would ask the Forest Service and EPA to look very carefully at this issue since there is not a specific standard in the US. An acceptable standard is needed to protect the health of people and animals, especially children.

Perhaps an approved EIS should be postponed until a good exposure standard is achieved. I also believe a more

complete independent study of how the mine will keep particulate matter within their fence line be accomplished. Such a study should also factor in the other mining companies in the Patagonia Mountains currently exploring for minerals. Levels of exploration may already be impacting airborne particulates, but if these companies move to mining operations, the holistic impacts may exceed all safety thresholds.