

June 10, 2024

Dear Colleagues,

Thank you for the opportunity to comment on the Hermosa Critical Minerals Project as the Forest Service and other federal agencies prepare to conduct research to prepare an environmental impact statement. As these preparations continue and as the research progresses, I would like to encourage study of the following subjects.

Environmental and Community Impacts of “No Action” Alternative

Please compare and contrast the environmental impacts of approving the preferred alternative traffic route and use of line power (supplied with renewable energy) compared to the baseline of trucked in compressed natural gas to power the project.

Removing the need for routine delivery of natural gas to the site would reduce truck traffic in Santa Cruz County significantly, while also dramatically lowering emissions at the Hermosa project site. Moreover, the construction of a new primary access road that is more distant from the Town of Patagonia – in accordance with the desires of the community – would also be preferable compared to not approving the proposed action.

National Security and Environmental Implications of Continued / Heightened Reliance on Foreign Sources of Critical Minerals

Please study the environmental implications in terms of greenhouse gas emissions from a continued reliance on foreign sources of critical minerals including Zinc and Manganese—both in terms of shipping and production process impacts from global suppliers of these minerals at mines built to different standards for environmental protections and human rights.

The United States is currently 100% reliant on foreign supplies of manganese, and China alone is the source of 96% of the world’s battery-grade manganese. Today, the US is 77% reliant on foreign supplies of Zinc, a number that will increase dramatically as Alaska’s Red Dog mine (the largest current domestic supplier of Zinc) closes in the next 5-7 years.

I understand that the White House and Federal Permitting Council recognized the need to prioritize domestic production of these minerals by inviting the Hermosa project to be the first critical minerals mining project in the FAST-41 federal permitting coordination process. Similarly, the Pentagon is aware of the challenge of being so heavily reliant on a foreign adversary for critical minerals like manganese that are key to the future of electric vehicle batteries and energy storage systems.

Beyond the national security implications, there are significant environmental costs that can be envisioned from needing to ship these minerals many thousands of miles across oceans. Moreover, the environmental impact of global suppliers of these resources—in mines not built to US standards in the 2020s—are also likely far worse for the environment than a modern mine built in Arizona. Beyond the environmental impact, it would also be prudent to study the differences in human rights and labor rights at mines in other global sources of these minerals.

Escalating demand for Zinc and Manganese in the Energy Transition

Please study the rising demand for zinc and manganese—along with silver, which will also be produced by the Hermosa project—as the energy transition continues.

Given the increasing amounts of manganese being used in electric vehicle batteries, and the rising demand for EVs in the United States and globally, estimates indicate that global demand for Manganese will increase by up to 800% in the next decade.

Similarly, zinc is used to galvanize steel and is increasingly also being used as an alternative to lithium in energy storage batteries since it is far more stable. With the increasing electrification of the economy and a focus on clean energy, demand for zinc is expected to triple over the next 5 years, even as domestic supply dwindles.

Please study the implications of not approving this project for the ability of the United States to meet its ambitious decarbonization and energy transition goals.

Economic Opportunity for the Community

Finally, and perhaps most importantly, it is critical to study the economic opportunities that this project offers the people of Santa Cruz County, Arizona.

The county is among the poorest in the state of Arizona and is home to a population where 78.7% speak a language other than English (largely Spanish) at home. The poverty rate is over 20%, and the unemployment rate (5.2%) is nearly double the state average in Arizona (3.6%).

The Hermosa project will create approximately 900 direct jobs, with average annual pay of \$90,000. This is a huge benefit for a County of 50,000 people where the average annual *household* income is approximately \$52,000 annually. Additionally, the project will approximately double the tax revenue for Santa Cruz County, which will provide significant benefits to local schools and vastly improve the provision of public services including law enforcement and fire safety. This significant benefit should not go unaccounted for.

Thank you for your consideration of my views and I look forward to continuing to follow the progress on this important project closely.

Sincerely,

Garrett Workman
Tucson, AZ

Sources:

Benchmark Minerals: Battery Demand for Manganese Set to Increase 8-fold this Decade: <https://source.benchmarkminerals.com/article/benchmark-launches-manganese-sulphate-market-outlook>.

Federal Permitting Improvement Steering Council: Permitting Council Announces First-Ever Critical Minerals Mining Project to Gain FAST-41 Coverage - <https://www.permits.performance.gov/fpisc-content/permitting-council-announces-first-ever-critical-minerals-mining-project-gain-fast-41>.

South32 Hermosa: Economic Impact: https://south32hermosa.com/en_US/economic-impact.

Statista: Demand for Zinc Worldwide in 2020, with Forecast Figures for 2025 and 2030, by Renewable Energy Type: <https://www.statista.com/statistics/1313661/global-zinc-demand-forecast-by-renewable-energy-type/>.

University of Arizona Economic and Business Research Center: Arizona's Economy – Unemployment Rate: <https://www.azeconomy.org/arizona-unemployment-rate/>.

US Census Bureau: Santa Cruz County, Arizona Overview: https://data.census.gov/profile/Santa_Cruz_County,_Arizona?g=050XX00US04023.

US Department of Defense: DOD Awards \$20 Million to Enhance Domestic Manganese Supply Chain - <https://www.defense.gov/News/Releases/Release/Article/3779115/dod-awards-20-million-to-enhance-domestic-manganese-supply-chain/>.

US Geologic Survey: 2024 Annual Mineral Commodity Summary for Manganese - <https://pubs.usgs.gov/periodicals/mcs2024/mcs2024-manganese.pdf>.

US Geologic Survey: 2024 Annual Mineral Commodity Summary for Zinc - <https://pubs.usgs.gov/periodicals/mcs2024/mcs2024-zinc.pdf>.

Wall Street Journal: The Global Solar Power Boom is Driving a Surge in Silver Demand: <https://www.wsj.com/articles/the-global-solar-power-boom-is-driving-a-surge-in-silver-demand-4ac20435>.