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Comments: I live at 378 Pennsylvania Avenue in Patagonia. I have a master's degree in Geology focused on geohydrology from the University of Arizona. I am very concerned about the dewatering of the Patagonia uplands that will be necessary in order for South 32 to access their mineral targets at depths of up to 2900 feet. Though I commend South 32 on their innovation in accessing the ore body at depth rather than creating an open pit mine, I see that the proposed underground stoping method will necessitate the drying out of the Patagonia Mountains. The Trench Camp area that is the epicenter of the 2900-foot shaft that will be drilled to laterally access the ore body below is located at an elevation of 5,200 feet above sea level. That area is part of the Patagonia Mountains, which rise to around 7,200 feet, and are part of the Sky Islands of Southern Arizona. Please provide the evidence that the mining operation will not dewater the fractured and faulted highlands as well as the lands around the mountain range down to 2300 feet. If this cannot be done, the no action alternative where the project isn't permitted is appropriate.

Sky Islands are isolated mountain ranges separated from other mountains by a large distance and surrounded by lower lands that are dramatically different environments. The biodiversity results from the elevation differences produced from higher to lower environments, in our case from pines, to oaks, to pinon/juniper, to grasslands, to deserts. The Rocky Mountains, Sierra Madre, Chihuahuan Desert, Sonoran Desert and the Great Plains ecosystems come together in the Sky Island region of Arizona creating unique relationships that lead to greater species diversity than most mountain ranges. From an Ecologists perspective, please justify how each alternative will ensure that these systems will remain intact for the socioeconomic wellbeing of current and future citizens. I myself have found Elegant Trogan, Yellow billed Cuckoos, Lewis Woodpeckers, Northern Beardless Tyrannulets, Lucys Warblers, Western Screech Owls and Coati in the Patagonia Mountains in the last two years. These Mountains are a destination for birders, hikers and bikers across the world and home to a community that reveres them. The Town of Patagonia has a library, an opera house, a movie theater, a swimming pool, a newspaper and it's own radio station. We welcome outdoorspeople, artists, and musicians and already have the foundation to build a strong for a nature-based economy based on conservation as a source of capital for development. There are economic alternatives that are wholly viable and will not result in a devastated community and environment. Please offer an alternative that will do no harm to the environment and this community.

Because I care deeply about the entire Patagonia Mountain region, I lead the Friends of Sonoita Creek's Spring Monitoring Program. This past March an article in the Journal: Energy and the Environment described springs this way: "Springs are the canary in the coal mine," "When springs dry up, that's a troubling sign that maybe groundwater pumping is not sustainable." Friends board members and volunteers surveyed and measured basic parameters at 55 springs this past winter (October 2023-November 2024) in the Patagonia Mountains. Our plan it to revisit all of those springs in June, the dry season before monsoon rains. Please collect enough data to ensure that the groundwater supply for both private landowners and the Town are unaffected by mining operations.

The Town of Patagonia sits in the middle of the Sonoita Creek watershed and the Patagonia Mountains form the southeast watershed boundary. Springs are essential to maintaining baseflow in this watershed. In fact, the name Sonoita, where the headwaters are, is an adaptation of an Indian word meaning "spring field." Yet, springs are not protected in the US or Arizona. Please provide the data and evidence that both highland and lowland springs the will not be affected by this mining project. The animals and plants depend on them in the dry seasons and Sonoita Creek in all seasons.

With Friends, we also map the wet sections of streams in four seasons over the year. Here in the Southwest U.S., many streams flow in sands underground and come up where hard rock brings them to the surface.

Systems like this haven't been valued by our regulators and representatives and are not protected under our current laws. Yet here is where we rely on springs and intermittent streams, we find this incredible biodiversity. Please address the effects of this mining project on the intermittent streams that sustain this amazing biodiversity

and people of the watershed. An excellent example of a highly functioning system can be found at Babocamari Ranch, which has been protected over the years by a Spanish Land Grant that allocated an amount of water to the property.

The dewatering of these uplands will create irreparable damage to the ecosystems (interconnections), animal and plant diversity, and carrying capacity of the radial area surrounding the mine at least 4 miles out, which covers the entire mountain range. I think there are other places where access to the ore body would not require this extreme level of destruction of the environment. I urge state and federal agencies to protect Arizonans and our amazing lands and biodiversity. Please do a cost benefit analysis of this area that considers this project as well as other economic drivers.

It is imperative that federal and state agencies to work together for Arizonans and for the beautiful landscapes and ecosystems that rely on us.