

David Levene

Letters against issuing the mining permit. Grisel Levene. David Levene

12 | 25 | 2023

Dear Arizona Department of Environmental Quality,

I'm writing to urge you to deny South32's effluent permit renewal (04200206387) for discharging pumped aquifer "make-up" water into Hashashua and Alum creeks. The possible impacts are unacceptable and fall under two main categories:

1. dewatering due to regular pumping and
2. chemical and physical degradations due to increased flow rates in Hashashua and Alum creeks.

First reducing the water table level in those mountains will many numerous springs and livestock tanks of fresh water supply. The change in hydrology, resulting around the mine will very likely change the "parts of exist resources" where current springs emerge, permanently drying natural water sources. Such sources of water that provide rare and irreplaceable habitat for various imperiled species, including the Mexican jaguar, are irreplaceable and already threatened by a changing climate. Further more, tens of thousands of head of livestock regelmind will very likely be severely impacted as streamwater fed livestock tanks are dried.

Expected flows from water discharge area is so directly concerning. Up to 5 million gallons of water per day will be dumped into Hashashua Creek up to 172 million gallons per day into Alum Creek. Such large volumes will far exceed the usual infiltration and base flows in these creeks, and all even so pass Sonora Creek's flow rate by over three times. This could result in significant ramifications, including severe upstream erosion, excessive downstream sedimentation, and/or potential harm to vital water sources, including notable, severe, extreme springings in the Sheep Creek and the Alum Creek. The concern is heightened due to the unique and biologically nature of the areas immediately surrounding springs.

Estimates propose that these verge like areas may have more than 20% of endangered and threatened species in the area, a remarkable statistic given their relatively small land surface area, also indicated by the Spring Stewardship Institute. Such large volumes of water introduced into these waters will lead to reduced tree recruitment for riparian species like cottonwoods and sycamores — one time, significantly changing both the landscape, and its faunal composition during storms.

Further, because the water exchanges are continuous, the affected landscape will become waterlogged, meaning a reduced capacity for soils and sediments to absorb high volumes of water in heavy rain events, making downstream flows flooding more intense and less predictable; significantly increasing the danger to residents, property, and public infrastructure during storms.

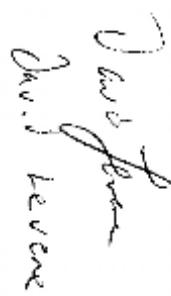
Additionally, high rates of flow could liberate and transport high volumes of numerous toxic heavy metals, either within the sediments or both Lower Hashashua and Alum Creek, a remnant of legacy and mine damage resulting from two generations of unregulated mining practices. It has been well demonstrated that both creeks are severely impacted as demonstrated in the 2012 University of Arizona thesis, "Contamination of Heavy Metals from South32 Mining in Hashashua Creek, California by Acid Mine Drainage in SE Arizona, Including Evidence" wherein a

for example, soil samplers from Lower Hashashua creek were determined to be "contaminated with Pb in a depth of 7.5 cm and total Pb of 13.3 mg/g." (Bellman 2011). These numbers are alarming especially when taken with the very real probability of such contamination being transported upstream when taken with the very real probability of such contamination being transported upstream. Hashashua discharge into the groundwater basin from which Parsons Well is used for residential use. Not to mention the introduction of this contaminated water into the federally recognized impaired surface waterway that is Sonora Creek. The Arizona Department of Environmental Quality seems to be either unaware or unconcerned with these threats. As well, versions of both the National Pollutant Discharge Elimination System and Aquifer Protection Permits only name a single actual point of discharge 200 feet downstream of the outlet. I argue that South32 intends to use railroad tracks and Alum creek as natural pipes to discharge their water, and that the true point of discharge is not where they release it from their pipes, but where it comes into contact with the off-shoots of Sonora Creek and Pahvant II watershed.

At the very least, ADEQ must cease additional permits of compliance and require South32 to fund communal remediation of these contaminated creek beds if they seek to pump water into them, which endangers not only the health of the delicate mountain ecosystem, but also the residents of Hashashua and visitors to the area who enjoy the swimming water, recreation, and fish that would be made hazardous if you choose to do nothing.

For all these reasons, I strongly urge you and the Arizona Department of Environmental Quality to deny the permit for this project.

Sincerely,


David J. Levene



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