Resolution Copper Mine an Environmental Destruction of Superiors Water Supply

Concerned Citizens and Retired Miners Coalition of Superior, Az, ***(which is not anti-mining, only against this proposed block cave mining method***) has put together this condensed version of the of the Final Environmental Impact Statement (FEIS) identifying important areas of concern, that was released in 2021. It was a collection of 6 volume's each 1 ½ inch thick, plus the Record of Decision (ROD). Each section mentioned per verbatim from the (FEIS), is identified by volume and page number where it was obtained, for reference purposes and made more user friendly. The (FEIS) is presently on hold by the Biden administration due to concerns that haven't been addressed with water issues and Native American Tribal concerns. The mining method that Resolution Copper wants to use here, is called the" Block Cave Mining method", which is totally different than what had been used here historically in the past. This very destructive type of mining was used in the San Manuel Mine (BHP) which was closed in 1999, with 30years of ore left underground. This 4-year, 4-million-dollar comprehensive environmental study was paid for by Resolution Copper for, the United States Forest Service (USFS), per National Environmental Policy Act (NEPA) requirement.

This study conducted by the US Forest Service and their contracted consultant SWCA, will show the irreversible damage that will occur to the area's aquafers (deep & shallow ground) and surrounding area springs, including their contamination. "This study will also show that this mine will not have a direct financial impact to the town of Superior, due to the mine not being in the towns annexed area". Below is the link to the FEIS-USFS (Final Environmental Impact Statement) to reference section and page notation.

Final EIS | Resolution Copper Project and Land Exchange Environmental Impact Statement (resolutionmineeis.us)

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ES-1.2 Project Overview

Resolution Copper is proposing to develop an underground copper mine at a site in Pinal County, about 60 miles east of Phoenix near Superior, Arizona. Project components include the mine site, associated infrastructure, a transportation corridor, and a tailings storage facility. The project would progress through three distinct phases: construction (mine years 1 to 9), operations, also referred to as the production phase (mine years 6 to 46), and reclamation (mine years 46 to 51–56). At the end of operations, facilities would be closed and reclaimed in compliance with permit conditions. Operational projections are removal of 1.4 billion tons of ore and production of 40 billion pounds of copper using a mining technique known as panel caving. Using this process, a network of shafts and tunnels is constructed below the ore body. Access to the infrastructure associated with the panel caving would be from vertical shafts in an area known as the East Plant Site, which would be developed adjacent to the Oak Flat Federal Parcel. This area would include mine shafts and a variety of surface facilities to support mining operations. This area currently contains two operating mine shafts, a mine administration building, and other mining infrastructure. Portions of the East Plant Site would be located on NFS lands and would be subject to Forest Service regulatory jurisdiction. Ore processing would take place at the old Magma Mine site in Superior. Construction of a tailing's storage facility (TSF) (Skunk Camp behind ASARCO Open Pit) would house the waste material left over after processing. The facility disturbance footprint would occupy from 2,300 to 5,900 acres, depending on the location and embankment design. Pipelines would be constructed to transport the tailings waste from the ore processing facility to the tailing's storage facility. ***The estimated total quantity of external water needed for the life of the mine (construction through closure and reclamation) is substantial and varies by alternative (180,000 to 590,000 acre-feet). Resolution Copper proposes to use water either directly from the Central Arizona Project (CAP) canal and/or groundwater pumped from the East Salt River valley.*** Over the past decade, Resolution Copper has obtained banked water credits for recharging aquifers in central Arizona; the groundwater pumped would be recovery of those banked water credits, or groundwater use authorized by the State of Arizona under a mineral extraction withdrawal permit.

While all mining would be conducted underground, removing the ore would cause the ground surface to collapse, creating a subsidence area at the Oak Flat Federal Parcel. The crater would start to appear in year 6 of active mining. The crater ultimately would be between 800 and 1,115 feet deep and roughly 1.8 miles across. The Forest Service assessed alternative mining techniques in an effort to prevent subsidence, but alternative methods were considered unreasonable. (Note: It is basically saying that profit could only be obtained using this environmentally destructive block cave mining method.)

Present Water Impacts to the state of Arizona

Arizona is presently in the worst drought in 1200 years, The Colorado River which supplies Lakes Mead and Powell with water both are presently at below 30% capacity. The Colorado River, supplies Arizona with 36% of its water use, it also provides water for 40 million people in the southwestern United States. California which gets the largest share of this water, is also the largest producer of agricultural crops in the US.

This mine would use 40,000- 50,000-acre ft. of water a year while in production. The city of Tempe, Az, with a population of 160,000 people, uses that much a year. (Acre ft of water is approximately. 326,000 gallons.)

Block Cave Mining Impacts to Superiors Area Aquafers

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Sec 3.7 Water Resources

Overview

Natural water features are scarce and important to tribes, wildlife, residents, and recreationists. The Resolution Copper Project could affect both water availability and quality in several ways. In order to construct mine infrastructure, dewatering of the deep groundwater system below Oak Flat began in 2009, and would continue through mining. As the block caving and subsidence progress, ***eventually the effects of dewatering would extend to overlying aquifers. Changes in these aquifers, as well as capture of runoff by mine facilities and the subsidence area, could in turn affect springs, flowing streams, and riparian areas. In addition to loss of water, water quality changes could result from stormwater runoff, tailings seepage, or exposure of rock in the block-cave zone.***

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IDENTIFYING AND DEFINING GROUNDWATER-DEPENDENT ECOSYSTEMS

The Groundwater Modeling Workgroup developed the list of *GDEs (Groundwater Dependent Ecosystems)* based on multiple sources of information; it ultimately evaluated in detail 67 different locations (Garrett 2018e). Any riparian vegetation or aquatic habitat around the GDEs is considered an integral part of the GDE. The source of water for each GDE is important. Most of the 67 GDE locations the Groundwater Modeling Workgroup assessed were identified because of the persistent presence of water, year-to-year and season to-season. In most cases this persistent water suggests a groundwater connection; however, the specific type of groundwater is important for predicting impacts on GDEs. ***There are generally two regional aquifers in the area: the Apache Leap Tuff, and the deep groundwater system. Any GDEs tied to these two aquifers have the potential to be impacted by mining. The deep groundwater system is being and would continue to be actively dewatered, and once block caving begins the Apache Leap Tuff would begin to dewater as well.***

KEY DECISION ON USE OF MODEL RESULTS – TIME FRAME

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Modeling could be avoided entirely if the assumption could be supported that post-mine conditions would eventually return to pre-mining conditions. This will never occur. Block caving is anticipated to fundamentally alter the hydrogeologic framework of the aquifer system, effectively eliminating the Whitetail Conglomerate unit that to date has separated the deep groundwater system from the Apache Leap Tuff aquifer. There is no expectation that the post-mine aquifer system eventually will look the same as it does today. Modeling is the most appropriate tool to predict how an altered aquifer system, fundamentally different from current conditions, would function.

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Potential Economic Impacts from Water Supplies

Resolution Copper's legally permitted use of water adheres to the norms and values placed on water by the State of Arizona. ***Analysis of the economic value of the water used by Resolution Copper, the other beneficial uses to which water could be put, or extrapolation (estimating) of economic harm to other entities due to Resolution Copper's legally permitted use of water, is outside the scope of analysis of this EIS. Groundwater drawdown in the vicinity of the mine site could impact water supply availability for some existing users, including the Town of Superior, Boyce Thompson Arboretum, and Top-of-the-World CDP. (Resolution says it will use Mitigation Effectiveness (reduce the severity seriousness). Groundwater quantity near the Desert Wellfield (Apache Jct. east side area) could also be impacted. Groundwater users in this area could experience increased pumping costs or potentially need to drill deeper wells to obtain their water supplies. Higher pumping costs and deeper well requirements could also affect the desirability of properties in this area and, potentially, the value of those properties.***

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Sufficiency of regional water supplies

The above quantitative analysis includes known population increases through the incorporation of permitted Assured Water Supplies. It does not include development in the Superstition Vistas planning area (south of US 60, east of Apache Jct.). Resolution Copper and ASLD (Arizona State Land Development) have discussed potential wellfield layouts for Superstition Vistas, (pop.est.1.2 mil) informed by these modeling results, but no firm water supply planning has been undertaken. Conceptual water uses estimates for Superstition Vistas range anywhere from 100,000 to 190,000 acre-feet/year, depending on the progressiveness of water conservation (Morrison Institute for Public Policy 2006). **(***Note: potential loss of 500 million dollars to Arizona Department of Education, due to land depreciation (Superstition Vistas) due to insufficient water for future state land trust sales, to fund the Dept. of Education.)*

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3.13 Socioeconomics

Overview

Large mines can be a boon to local economies through the influx of employees, spending on products and services, and increased tax revenue. These same increases can also stress basic services like hospitals, water and sewer systems, local housing stock, and roads and infrastructure. A large mine (or tailings facility) can also fundamentally change the quality of life of the surrounding communities, affect property values, and affect other industries, such as tourism and recreation. Historically, ***mining in Arizona has followed a "boom and bust" cycle, which potentially leads to great economic uncertainty.***

State and Local Government Revenue Summary

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Although Superior is by far the closest municipality to the proposed mine, ***the Town is projected to receive a small share of the total tax revenues (less than $0.4 million per year) in the near term. (Note: The town will not receive direct financial revenue from the mine due to it (mine) not being annexed within the town's city limits).*** Revenue will increase to about $0.9 million per year, if future development accommodates the full housing demand estimate of 433 workers living in Superior. The proposed mine would also produce substantial revenues for the Federal Government, estimated at more than $200 million per year from corporate and employee Federal income taxes. (School District and Pinal County will also benefit) (Elliot D. Pollack and Company 2011). (***The largest major of revenues, (Billions) would be going overseas to England (Rio Tinto) and Australia (BHP).***

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Effects of the Land Exchange

The land exchange would have significant effects on recreation. The Oak Flat Federal Parcel would leave Forest Service jurisdiction, and with its myriad recreational opportunities currently available and used by the public. The Oak Flat bouldering area offers freestanding bounders and small cliff-lined canyons with over 1,000 documented boulder routes and problems. The area has held various bouldering and climbing competitions as recently as 2016 and the Phoenix Bouldering Contests and Phoenix Boulder Blasts through 2004; all climbing, and bouldering areas would be lost when the Oak Flat Federal Parcel transfers out of Federal ownership. Additional recreational activities that would be lost include camping at the Oak Flat Campground, picnicking, and nature viewing. The campground currently provides approximately 20 campsites and a large stand of native oak trees. It also is boasted as an important birding destination with approximately 183 different species reported by birders

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ES-1.3 Areas of Controversy

Water use is a major concern among the public, other government agencies, and stakeholders. Recycling and reuse would happen extensively throughout the mine operations, but as previously mentioned, additional external water is needed for processing. There are concerns regarding how public safety may be affected by the project. This includes the physical safety of persons in areas of subsidence and adjacent communities, as well as increased traffic and effects on air and water quality. There is public apprehension over the creation, and type, of a tailing's embankment for the tailing's storage facility. The catastrophic collapse of the Brumadinho tailings dam in Brazil in January 2019, resulting in 259 confirmed fatalities with 11 individuals still missing (Nogueira and Plumb 2020), has heightened concerns. FEIS says Skunk Camp TSF (preferred site, will use the (high density thickened/thin lift tailings.

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Financial Assurance for Closure and Post-Closure Activities

Selected tailing site, (USFS preferred site Skunk Camp, East- behind Grupo Mexico Open Pit).

Alternative 2 (<u>or other potential sites</u>) involves long time periods of post-closure maintenance and monitoring related to revegetation and reclamation of the tailing's storage facility. ***This raises the concern for the possibility of Resolution Copper's going bankrupt or otherwise abandoning the property after operations have ceased. If this were to happen, the responsibility for these long-term activities would fall to federal and state of Arizona taxpayers. The Forest Service would need to have financial assurance in place to ensure adequate funds to undertake these activities for long periods of time—for decades or even longer***

and the US Forest Service always underestimates the required bond amount. The state of Arizona does not require cash bonding, allowing for an even greater chance that Arizona taxpayers should Resolution Copper leave or go bankrupt.

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ES-3.7 Water Resources

Groundwater supplies in Superior and Top-of-the-World could be impacted by groundwater drawdown but would be replaced through" mitigation" (the action of reducing the severity, seriousness, or painfulness of something). ***Over the mine life, 87,000 acre-feet of water would be pumped from the mine, and between 180,000 and 590,000 acre-feet of makeup water would be pumped from the Desert Wellfield in the East Salt River valley. The wellfield pumping would incrementally contribute to the lowering of groundwater levels and cumulatively reduce overall groundwater availability in the area.***

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ES-3.15 Environmental Justice

This section examines issues in the context of the Resolution Copper Project and Land Exchange that have the potential to harm vulnerable or disadvantaged communities. The analysis concludes the following: • There are four environmental justice communities in the area, (Superior, Hayden, Winkelman, Kearney) as well as eight Native American communities, that would be impacted by cultural impacts described above. Impacts considered both high and disproportionate on environmental justice communities include impacts to scenic resources and dark skies, impacts to transportation networks, and impacts associated with tribal values and cultural resources. ***"The town of Superior would experience the most direct impacts".***

After reviewing this environmentally disastrous, impact statement how can anyone in the community or surrounding area support this project. The environmental effects are irreversible as noted. We should be asking ourselves, is this project worth jeopardizing the future of our community, or the investment we have in our homes. One only need to look at the San Manuel, Az. Mine operated by BHP, purchased in 1997 from Magma Copper and closed in 1999 permanently, laying off approximately 3300 workers and demolishing the smelter. This devastated that community, financially, to this day. Ironically there is still almost 30 years of ore left underground there. They should be pursuing re-opening that ore body. With this persistent southwestern drought, (23 yrs.), the worse one in 1200 years, it is only getting worse. Water is now the new oil, and is getting scarcer and more expensive, lets protect it for ourselves, not for the benefit of 2 foreign mining companies.

Respectfully, Concerned Citizens Retired Miners Coalition of Superior, Arizona

The organization is composed of residents and former miners of Superior, to include former residents of Superior, who live out of town in the east valley metropolitan area.

Note: Chairman Henry Munoz Sr. was born and raised in Superior, Arizona. He was also elected to 3 terms on the Superior Town Council (1989-1999), when the town was in an economic downturn. He comes from a family of 5 generations of underground copper miners and has 22+ years underground mining experience. Mr. Munoz has worked for Magma Copper Company in Superior, Az. From 1973 to 1982 when the mine closed, as a stope miner (old cut & fill mining process). He also worked as a miner (Drift) from 1986 to 1999 in San Manuel, AZ. (Block Cave mining process), until that also closed. He is presently a retired Arizona State employee living in Superior.

For More Information:

Reports from Dr. Steven Emerman on mine project

Group comments on Draft Environmental Impact Statement