



July 14, 2008

Team Leader - Rosemont Copper Project
Coronado National Forest
300 W. Congress St.
Tucson, Arizona 85701

Re: Rosemont Copper Mine Proposal - Scoping comments

Dear Team Leader:

Please consider the following scoping comments on the Rosemont Copper Mine proposal.

There are a number of reasons why scoping should not yet have begun and therefore we believe that this deadline for the close of scoping comments is improper. Nonetheless, we are submitting the following comments in a timely manner for your July 14, 2008 deadline. However, we reserve the right to augment and/or replace these comments if and when the scoping process is reinitiated in a more proper manner.

In general, the scoping process is premature and/or not properly facilitated for the following reasons:

- The initially scheduled set of public meetings was very inadequate, and insufficient information was available to make informed comments.
- Beginning the process before the Mine Plan of Operations was approved made sensible comments impossible.
- The process of selecting consultant organizations was unclear.
- The statement in the Federal Register that the purpose of the process is “to grant permission to the Company to use NFS land for certain activities relating to the operation of the Rosemont Mine” appeared to predetermine the outcome of the EIS process. A clear statement that the “no action” alternative is possible is necessary for public trust in the fairness of the process.
- We understand that the Forest Service has committed to establishing a system of fair and balanced advisory committees including representation from affected local communities. To date we detect no movement on that commitment.

Background

Augusta Resource Corporation/Rosemont Copper is proposing to use approximately 3,330 acres of public land for the chemical laden wastes from their mine. This will forever alter the

landscape and threaten the water resources of southern Arizona for the foreseeable future. The company is planning to leave an open pit over a mile wide by nearly 3,000 feet deep that will collect water over time, threatening our ground water quality. EATHWORKS is strongly opposed to this mine and the impacts to our public lands and natural resources. We urge you to select the No Action Alternative in the EIS. We believe that if the EIS process is conducted fairly and objectively, this will be the only viable alternative.

The Rosemont Valley provides valuable environmental goods and services and should be preserved for future generations, and not ravaged by an open pit copper mine. It contains a unique ecosystem (mid-elevation oak grassland) that provides habitat for wildlife, valuable watershed features (headwaters of Davidson Canyon/Cienega Creek), critical water supply for Tucson, and important recreational opportunities (hunting, hiking, off-road vehicle riding, horse back riding, bicycle riding, camping, bird watching, etc) for the citizens of Southern Arizona. The wealth of social, economic, recreational and environmental services provided to our community will be lost forever if the Rosemont Valley is allowed to become an open pit copper mine. The EIS should thoroughly identify and examine these environmental and public services to determine exactly what would be lost and how the company must mitigate these losses.

The National Forest Management Act of 1976 states that “the management of the Nation's renewable resources is highly complex and the uses, demand for, and supply of the various resources are subject to change over time.” The EIS should analyze how the uses, demand for, and supply of the various resources provided by the Rosemont Valley and the Santa Ritas have changed over time, and what the best uses of those lands are today. The Rosemont Valley is located in the middle of many communities that depend on it for a variety of resources. When previous plans to mine here were proposed, the population of Southern Arizona was much less, and there were very few people living close to the mine site. The demographics are very different today than they were then, and this issue should be closely examined in the EIS.

Claim Validity

Most of the mine would be located on National Forest lands that are claimed under the 1872 Mining Law. This law requires that mining claims be valid to be mined. Given the widespread opposition and controversial nature of this proposal, the Forest Service should conduct a validity exam on all claims that are held by Rosemont Copper, Augusta Resource, or any of their subsidiaries. Allowing this mine to proceed without validating the legal right of Augusta Resource/Rosemont Copper to mine these lands, would be a gross injustice to the American public. In addition, the use of claims (valid or otherwise) made on Federal public lands for ancillary mining uses such as tailings disposal is not covered by the 1872 Mining Law. Instead, only a Special Use Permit can authorize any use of these claims for ancillary use.

Water Quality

Most open pit mines have caused contamination of the surface and ground water in the vicinity. For example, the report by Kuipers and Maest studied how well the EIS process predicted water quality impacts. They determined that 100 percent of mines predicted compliance with water quality standards before operations began (assuming pre-operations water quality was in compliance). They also determined that after the mines were built, 76 percent of the mines studied in detail exceeded water quality standards due to mining activity, and that mitigation

measures predicted to prevent water quality exceedances failed at 64 percent of the mines studied in detail (Predicting Water Quality Problems at Hardrock Mines -- an EARTHWORKS white paper, A Failure of Science, Oversight, and Good Practice, Alan Septoff, Earthworks, 12/8/2006). The entire report and the white paper can be found on our website at: <http://www.earthworkSACTION.org/publications.cfm?pubID=213>

Given these results, it is especially critical that the Rosemont Mine not be allowed to proceed since the protection of our water resources clearly cannot be guaranteed. The EIS should determine how this mine would mine protect and not pollute the water in the Cienega Basin. Cienega Creek is designated as a State Unique Water (Outstanding Water) as part of the State Water Quality Standards, and therefore must be protected from degradation. In addition, Davidson Canyon has been nominated for the same protection, and until the Arizona Water Quality Standards are finalized, Davidson receives the same anti-degradation protection as a designated water. The preferred alternative in the DEIS should require that all facilities at the mine be lined to the highest standards to protect the surface and ground water, including the tailings, waste rock piles, the perimeter berm and all locations that use or store chemicals.

Air Quality

The EIS should address the following concerns related to air quality:

- What is the current air quality of the area, and how would the mine affect it?
- What are the wind velocities (minimum, maximum and average) at the mine site throughout the year?
- What is the prevailing wind direction throughout the year?
- How far would windblown materials travel from the site and in what directions?
- What would be the composition of the windblown materials and what are the associated health risks?
- How does this compare to air quality standards?
- Does the project meet the State and County air quality control regulations?
- What are the expected emissions and what would the composition be of those emissions?
- How would the increased truck traffic affect the hydrocarbon emissions in this area and would it cause air pollution problems to occur?
- How would the increase in emissions be mitigated?
- Would Augusta/Rosemont pay the fines the County incurs from exceedances of air quality standards?
- If the proposed project emits carbon monoxide, sulfur dioxide, or particulates, the EPA requires that the offsetting pollution source be within the immediate vicinity of the new plant.

Aquatic Biology

There are several springs within the project area, and perennial stream reaches downstream that should be considered in the EIS. The EIS should determine where the current perennial springs or perennial waters are located in this watershed, and determine which ones could be affected by

the mine. It should determine which springs and streams or stream reaches are perennial, intermittent or ephemeral, and what is the normal and seasonal flow at each one.

Other questions that should be answered by the EIS are:

- What is the current habitat condition and trend for riparian habitat, benthic, macroinvertebrate, and fish communities in the affected watershed?
- What species currently occur in or depend on the springs and perennial waters in this watershed and in what abundance?
- Are any of these species listed as threatened, endangered, sensitive, or any other special status?
- What is their sensitivity to water quality degradation?
- What level of water quality do they require for survival?
- What are the potentials for damage to the aquatic communities and ecosystems from this project?
- Do present biological communities show any evidence of natural or man-made contamination caused by historic mining operations?
- If any aquatic species are harmed by this project how would their demise affect the food chain in the area?
- What is the potential for water catchments or storage ponds at the mine site to host invasive aquatic species that could harm the native species?
- What are the possible impacts to the aquatic resources that could be affected by this project, and how would these impacts be mitigated?
- How would the aquatic life and habitat be monitored during the entire project from start of construction to end of reclamation?

Cumulative Impacts

In addition to the Rosemont Mine, there are many projects being considered in this watershed. For example, current proposals or potential projects include the sand and gravel mine in Davidson Canyon (Cal-Portland Cement), the Seel calcium carbonate mine in the Empire Mountains, and the TEP substations in Vail. The EIS for the Rosemont Mine must list all current and future planned projects that would be located in the watershed or in the vicinity, and must consider cumulative impacts. The analysis must be conducted on a watershed scale, using a watershed approach.

Economics

Many aspects of the proposed mine relate to economics and must be investigated:

First, an independent analysis should be made of the economic viability of the mine to determine if the ore at this site can actually be mined at a profit. Since Augusta Resources has yet to actually operate a mine, their evaluation of the viability of the mine should be examined carefully. A failed venture is in the interest of no one. What if they get part way through the project and abandon the mine, leaving equipment, trash, chemicals and an unreclaimed mine site? Bonding must insure that a responsible third party would have the resources to restore the area to multiple-use condition.

Second, the proposed positive economic benefits of the mines should be evaluated carefully.

- How many people will actually be employed locally?
- Where will new employees live?
- What will be the cost of additional services provided by local governments?
- What is the breakdown by type of job and salary?
- Does the infrastructure exist in communities like Vail and Corona de Tucson to accommodate an influx of workers who want to live close to the mine?
- Who will pay for the necessary changes in those communities.

Finally and perhaps most importantly, the impact on existing businesses and residents must be considered:

- How will a thriving tourism industry in Sonoita and Patagonia be affected?
- What is the tradeoff between a sustainable tourism industry and a short term mining project?
- What will be the effect on property values, particularly in the Sonoita, Patagonia, Empire-Fagin and Vail areas? Many local residents have their life savings in their homes and there are extremely expensive homes as close as five miles from the proposed mine.

Mine Design

The mine plan proposes various new techniques that are claimed to be environmentally sensitive, such as a “dry stack tailings” method. This method has been used in Chile. However, the concern is that this method has not been thoroughly tested in this climate regime.

- What were the results of that application?
- How much water was actually used?
- What are the climate characteristics of that site and how does it compare with the climate conditions at the Rosemont Mine site?
- Where else besides Chile has this dry stack tailings technique been used?
- What were the results at those locations?
- Has this technique been successful on a scale as large as the proposed mine?
- How much additional water would be required if dry stacking does not work?
- Where would the additional water come from?
- How much additional land area would be required for the tailings?
- How would this impact the rest of the mine design, processing and land use?
- How would the mine design and feasibility change if dry stacking is not possible?

Other concerns that should be addressed include:

- How would the design of the retention ponds at waste rock piles prevent any leakage or drainage into surface or groundwater in the area?
- Would the waste rock facility be lined like the leach pads?
- How would the groundwater and surface water be protected from the inevitable leaching of metals and other chemicals if this facility is not lined?

- How would this facility be monitored to determine if any leaching is occurring?
- What is the emergency plan if this facility is found to be leaching heavy metals or other contaminants into the ground water or surface water?

Lining all mine facilities, including waste rock piles and berms, should be included as an alternative in the EIS.

It is possible that the mine may not be operated continuously.

- What would happen to the mine facilities in the event of a temporary shutdown in operations?
- How would environment and water resources be protected during that time?

Pit Dewatering

The pit dewatering document describes a variety of general options for dealing with pit water, and is in general very vague about what would likely be happening at the pit. Some of these options required flattening the pit walls, presumably increasing the size of the pit. If this would require relocation of the other mine facilities, then a revised Mine Plan of Operations should be submitted and analyzed under NEPA. Any revisions to this document should require that NEPA be reinitiated, including public comment opportunities and hearings. Some questions:

- How much would the aquifer be drawn down as a result of pit dewatering?
- How far from the pit would the effects of dewatering occur?
- How would this impact Davidson Canyon and the springs in the area?
- How would the dewatering of these local resources be mitigated by Augusta?
- How would Augusta compensate the public for the loss of wildlife watering locations, impacts to vegetation from lowering of the water table, and the general loss of riparian areas from pit dewatering?

Reclamation Plan

Because of the sensitive nature of this watershed, the reclamation plan should do more than is required by the Arizona Mined Land Reclamation Act, and Forest Service reclamation requirements. Required reclamation must include removal of ALL buildings and equipment, and recontouring and revegetation of the entire site, including all roads, to a condition similar in topography, vegetation density and composition of surrounding unmined areas.

The alternatives in the EIS must include complete or partial back-filling of the open pit. The EIS should determine how much additional expense it would be to backfill the pit:

- How much additional time would be required in the overall life of the mine to include complete or partial backfilling?
- How would backfilling of the pit help protect or harm water quality in the watershed?
- How deep would the pit have to be backfilled to eliminate the pit lake?
- How much would this reduce the likelihood of aquifer contamination post-mining?
- How long would it take until the site is completely reclaimed and is a functioning, self-sustaining ecosystem?
- Would Augusta/Rosemont Copper guarantee that the site would be reclaimed to a self-sustaining functioning ecosystem?

- How many years would the site be monitored after mine closure to be sure the revegetation efforts are successful?
- What is the contingency plan if the vegetation is not established and self-sustaining within 5 years?

Mine waste used for the berm is notorious for being toxic to plants due to acid rock drainage and the exposure of highly mineralized soil to oxygen and water. Native plants would not be able to survive these conditions. Investigations should be done to determine the type of plants that will survive there.

- What research has Augusta done to determine a successful revegetation plan?
- How do situations elsewhere compare to the Rosemont site?

Financial commitments to reclamation are very important.

- How much would the reclamation bond be, and what form would it be in?
- Will the bond be at least as much as would be required if a third party had to reclaim the site?
- Will the bond be of a form that is secure and would still be available even if the company goes bankrupt, abandons the mine or sells to another owner?

Recreational Uses

The major concern is that elimination of this part of the Forest for recreational purposes will shift activities to already overcrowded places elsewhere in the Forest.

- What additional facilities will be made available to replace existing facilities that could be lost?
- Who will pay for them, taxpayers or the applicant?
- What will be the effect on wildlife of this shift?

Many of the current recreationists enjoy ATVs and 4-wheel driving. Other locations for these activities are limited within the Forest.

- Where will these activities be accommodated?
- Will additional law enforcement personnel be required?

Roads

The mine plan identifies an alarming number of huge trucks carrying toxic chemicals and explosives that would be traveling on Scenic Highway 83, day and night for 20 years. The EIS must analyze the environmental, social, economic, safety, and emotional issues associated with this type of increase in use of this highway. In addition to the uses during mining, the EIS should also include identification of staging areas and temporary roads needed for the preproduction phase and for the reclamation and closure phase.

Vegetation

There are many rare plants in the area (such as the Arizona *Phacelia*), that are blooming this year due to good rains over the past winter. The biological surveys that were conducted in the past (circa 1970's) used old survey methods. In addition, the climate regime is changing in Southern Arizona. New biological surveys must be conducted during various times of the year and over

several years to properly determine what is in the area, and the diversity of plants in the area. Due to the highly variable nature of our rainfall, some species may only be visible occasionally, and the survey plan should recognize this fact.

The proposed mine may represent a significant threat to lemon fleabane, an endangered plant indigenous to Southern Arizona. In addition, Pima Pineapple Cactus (*Coryphantha scheeri robustispina*) is a federally-listed endangered species and is known to occur in the Rosemont area. Thorough research and site surveys to identify existing populations of these plants must be conducted by trained professional botanists.

Concerns regarding the vegetation in the area that should be addressed in the EIS include:

- What are the short term direct impacts to the vegetation in the area?
- What are the long term, indirect impacts to the vegetation in the area?
- What are the important habitat types in the area?
- What is the current productivity of important habitat types in the area?
- What threatened, endangered, special status or candidate species are in the area, or could occur in the area?
- How would they be affected and how would this impact be mitigated?
- How does this plan comply with Executive Order 11990 (Protection of Wetlands) and Executive Order 91-6 (Protection of Riparian Areas)?

Viewshed

The mine site is directly west of Arizona Scenic Highway 83, and is visible for several miles along that road, including the overlook at the top of the pass. The company has proposed to build a berm around the site to shield the view, but this would still be an unnatural structure that would not match the surrounding landscape in topography, surface texture, or vegetation.

- Despite the berm, would any of the proposed facilities, pit, tailings or waste rock dumps be visible from Highway 83, Hilton Ranch Road area, or the Empire Mountain community?
- Which facilities and how much would be visible?
- If the possible modifications to the mine plan (i.e., changes to the pit configuration due to dewatering or pit wall instability, or the dry stack method not working as expected), would any of the site be visible from off site locations?

Water

The impact an proposed mine on ground and surface water is our greatest concern. Letters and reports already transmitted to the Forest Service by Pima County, in particular the work of Dr. Tom Myers speaks eloquently to this issue. We strongly agree that a complete hydrologic model of the area must be completed before any decision can be made about the mine. An improved model may require additional field investigations and these are also necessary. As long as there are any doubts about the impacts of mining operations on both surface and ground water flow, this project should not be approved. Water is our most precious and valuable resource, and we cannot afford to risk degradation to its quality or quantity.

Hydrologic studies must be conducted for all watersheds and basins that would be affected by this mine plan, including the Cienega Basin, the Upper Santa Cruz Valley, Sahuarita and Green Valley. Currently the mine plan does not contain enough information on the impacts from planned or potential groundwater withdrawals. Although the pumping would not be on Forest Service managed public lands, the impacts must be considered in the EIS.

The company is currently proposing to pump about 6,000 to 8,000 acre-feet of ground water per year for 20 years, at a rate of 9,000 gallons per minute. However, as this company has never mined before, they use of this figure is suspect. The US Forest Service must do an independent calculation of water usage based on both the current design and any modifications to this design. In particular, the US Forest Service should model water needed for a mine design without using a dry stake method of tailings disposal. Additional questions:

- Does the company have enough wells to supply this amount on a sustained, year around basis without causing serious problems to neighboring wells?
- What are the limits, if any, on how much water the company can withdraw or pump to the mine site?
- What is the legal responsibility of the mining company if they contaminate or degrade neighboring private wells and water resources?
- How would the mine impact nearby wells? How far from the mineral extraction wells would impacts be experienced?
- How would the existing water rights of current well owners in the affected areas be protected?
- If the proposed mine techniques are unworkable in this climate and more water is required, where would this water come from?
- If the company decides to use the CAP water they plan to purchase, what are the laws and requirements for using that water for mine processing, for transporting it out of the Santa Cruz Basin to the Cienega Basin, for transporting it across private, state and federal land, and for building and maintaining a water supply pipeline across the Santa Ritas?
- What other laws apply to this use of water, and does the company have the required permits?
- How would the mine impact surface water resources in the Cienega Basin?
- What are the characteristics of the existing stream channels and banks in the area?
- What are the general characteristics of the watershed of the project area?
- What are the characteristics of existing springs, ephemeral, intermittent and perennial streams?
- How would these surface water resources be impacted from the project, including flow volumes and water quality?
- What is the potential for springs upwelling under project features such as the leach pad liner?
- How would this affect the integrity of the leach pad and liner? Would this increase the potential for leaching into the aquifer?
- What is the drought preparedness plan? .

Wildlife

According to Arizona Game & Fish, many species of wildlife in the Santa Rita Mountains would be “devastated” by any level of open pit mining in the Rosemont Valley because of loss of habitat, boundary effects of industrialization, loss of corridors and fragmentation of forage and prey opportunities.

- What are the wildlife species that are found in the area, or likely to be found, that may be affected by this proposal?
- Which ones are threatened, endangered, species of concern, candidates for listing, or have other special status?
- What is the current condition and extent of the wildlife habitat in the project area, and the affected watershed?
- How would the project affect the wildlife and habitat?
- What physical and/or chemical agents would have the potential to cause harm to wildlife directly or indirectly?
- Which species were surveyed for and when were the surveys conducted?
- Were these surveys conducted over multiple years and seasons to get a true idea of what is there, due to the highly variable rainfall in this area that strongly impacts how species reproduce, and how easily they’ll be found?
- Will new biological surveys should be conducted over several years to account for population variability from variable rainfall, new listings, etc.

Several priority vulnerable species are known to occur in the area including the endangered Lesser Long-nosed bat (*Leponycteris curasoae yerbabuena*). In addition, other special status species include: Chiricahua Leopard Frog (*Rana chiricahuensis*), listed as threatened, and the Western Yellow-billed Cuckoo (*Coccyzus americanus*), a candidate for listing. In addition, the Rosemont Talussnail (*Sonorella rosemontensis*) is likely to be found within the project area as its range is linked to the Rosemont region.

At least four species of State protected reptiles are known to reside at this site: ridge-nosed rattlesnake, rock rattlesnake, desert tortoise and the Gila monster.

New surveys for reptiles should be conducted over several seasons to account for variations in climate that make them more or less abundant.

What is the projected wildlife mortality rate from the mine-related increase in traffic on Highway 83? Which species are most likely to be impacted by the increased traffic? How would the company mitigate this impact?

There are a myriad of additional questions that should be asked about this very ill-advised project. However, I am confident that many other competent reviewer have had the time to ask questions we may have missed.