

Rosemont Comments  
Coronado National Forest  
P. O. Box 4207  
Logan, UT 84323

To whom it may concern:

This letter is in response to the rebuttal statements of the Draft Environmental Impact Statement for the Rosemont Copper Project (EIS), MB-R3-05-3a, dated September 2011. We are Escabrosa Grotto, Inc (EGI), which is a non-profit organization and a local chapter of the National Speleological Society, dedicated to cave and karst conservation, science and education. EGI's mission is to promote interest in speleology, to advance the science of speleology, to promote fellowship, to promote cave conservation, and to promote cave safety. EGI is the steward of Onyx Cave, which is located in Gardner Canyon south of the proposed mine activity area and is designated by the National Park Service as a **National Natural Landmark**. Onyx Cave is recognized as one of the finest caves in Arizona. Onyx Cave is also highly regarded for the profuse quantity and diversity of speleothems, or cave formations. Nearby Cave of the Bells is managed by the Coronado National Forest, and is a popular recreational cave. Both caves are the site of recent hydrological studies performed by Sarah Truebe in pursuit of her doctorate from the Geosciences Department at the University of Arizona. Her comments to the rebuttal are included below.

The rebuttal to our previous submission was included in the Final Environmental Impact Statement for the Rosemont Copper Project dated December 2013. It states the following:

**From Volume 2, page 174. (Chapter 3, Affected Environment and Environmental Consequences)**

**Caves**

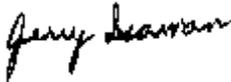
The two closest known caves to the project area are the Cave of the Bells and Onyx Cave, located about 7 to 8 miles away. Oxygen isotope analyses were conducted on a stalagmite from Cave of the Bells and indicated that over the past 75,000 years, the water entering the cave has been meteoric in nature (Spencer n.d. [2012]). All other known caves in the area also have meteoric source water. Therefore, any possible groundwater withdrawal from the area would not affect known caves, and surface water impacts that would result from the project would be far removed from these known caves.

Although formations in Onyx Cave and also Cave of the Bells are fed and formed by meteoric water (rainfall) (e.g., see Spencer 2012) there exist pools in both Onyx and Cave

of the Bells. In Cave of the Bells, particularly, these pools intersect the groundwater table. Springs in Gardner and Sawmill canyons are at the same elevation below the cave entrance, and dye tracing experiments conducted by Lang Brod show that the pools are connected to these springs. Therefore, groundwater draw down in the area would drain these pools as well as local springs in those canyons. Additionally, if any groundwater becomes more acidic as a result of drainage from the Rosemont mine, there could be substantial dissolution at and below the current water table level, which could even lead to collapse and break down in the upper cave passages. Acidification of the groundwater would also have a severe impact on troglobitic species dependent upon this water.

Caves exist at a delicate balance between surface and groundwater. Depleting groundwater will make water flow through the caves faster to reach base level, and could affect the rate at which cave formations form, or stop their growth entirely. Removal of the pools at the bottom of the caves could also affect the overall humidity of the caves, changing the habitat suitability for bats and any invertebrate species currently occupying these caves and reducing the health of the caves and cave formations overall.

Sincerely,



Jerry Isaman  
Chair  
Escabrosa Grotto, Inc  
Tucson, AZ

Phill Benjamen  
Conservation Chair

Cc: Marjorie Blaine, U. S. Army Corps of Engineers  
Heather Germaine, National Park Service, National Natural Landmarks Program  
Margi Brooks, National Park Service, National Natural Landmarks Program  
Arizona Game and Fish Department, Phoenix office  
Arizona Game and Fish Department, Tucson office  
Michelle Hinte, owner, Onyx Cave access easement  
Jim C. Werker and Val Hildreth-Werker, NSS Cave Conservation Division  
Randy Serraglio, Center for Biological Diversity  
Save the Scenic Santa Ritas