The Proposed Rosemont Copper Mine Project: A Look at Scale and Impacts

An Important Decision
The US Forest Service is in the process of deciding whether to authorize an open pit copper mine in the Santa Rita Mountains of the Coronado National Forest. In 2011, the Forest Service released a Draft Environmental Impact Statement (DEIS) that included a range of project alternatives, including the Mine Plan of Operations originally submitted by Rosemont Copper Company and the Forest Service’s Preferred Alternative, known as the Barrel Alternative. Pima County is assisting the public process by providing these models depicting 1) the location, setting and scale of the proposed mining facilities (the Mine Plan of Operations) as submitted to the Forest Service by Rosemont Copper Company, and 2) the current conditions of the natural landscape. Information about this and other alternatives is included in the DEIS.

Location of Proposed Mine
The Mine Plan of Operations model displays an aerial view of the landscape, with the mine superimposed, as though viewed from a plane about 23,000 feet above. We combined an aerial photograph dated June 2007 with digital files of the proposed mine provided by U. S. Forest Service to create this terrain model. Mt. Wrightson lies 6.3 miles, or about 35 inches south of the model. Interstate 10 is 7.4 miles or about 41 inches north. The two big curves in the Sonoita Highway (State Route 83) as you descend from the Sonoita (Cienega) Valley are shown, as is Box Canyon Road (Forest Road 62), which crosses the Santa Rita range. Ground elevations are generally from 4500 to 6500 feet in elevation.

Model Scale
A scale bar is provided along one side of the model. One inch on the model is equal to approximately 950 feet on the ground, so individual people or cars are not visible. An 18-wheel truck would be smaller than a grain of rice. You may also notice, on the southern end of the model, houses interspersed on the landscape. The canopy of large oak and juniper trees creates dark dots on the north sides of hillslopes in the aerial image. The Imerys marble mine, visible from Interstate 19, is seen as a whitish area on the west side of the Santa Ritas, and may serve to provide a sense of scale for Green Valley and Sahuarita residents.

Looking west towards the Santa Rita Mountains from the scenic pullout on Sonoita Highway. If the Rosemont Mine proceeds as proposed, most of the view would be obliterated by mine tailings ranging from 200 to 800 feet high. Photo by Julia Fonseca (November 2004).

This map displays the limits of the 3-D model in the broader landscape. Some familiar landmarks are noted, such as Kentucky Camp, the Arizona Trail, Greaterville Road, and Mount Fagan.

Peggy Anne Vallery of the National Wild Turkey Federation releases a Gould’s turkey in Gardner Canyon in the Santa Rita Mountains as part of a major reintroduction effort. Arizona Game and Fish supervisor Brian Wakeling watched the release with Justice Martin, 7. The trees in the background give a sense of scale as to the size of the “dots” on the model. Photo by Arizona Game and Fish Department
Proposed Mine Features

The open pit mine proposed for the east side of the Santa Rita Mountains would be a mile across and over 2000 feet deep. Note that the pit is much deeper than the adjacent mountains are tall. Sentinel Peak ("A" Mountain) would easily fit inside.

Open-pit mining techniques would generate a pile of waste rock and processed tailings that would exceed the volume of material excavated from the pit. As proposed at the mine’s closure, this pile would extend to around 2900 acres, filling 18 miles of stream channels and valleys. The maximum height of the pile would be 800 feet over the existing terrain, but in most places, it would be several hundred feet deep. Most of the pile would be located within the Coronado National Forest. This particular model, based on the 2007 Rosemont Project Plan of Operations, reflects completed reclamation consisting of partial cover of grass and other low-growing vegetation on native topsoil.

The Forest Service presented 6 alternatives (including a no action alternative) for the waste and tailings piles in the 2011 Draft Environmental Impact Statement (DEIS). The Service’s preferred alternative (called the Barrel Alternative) decreases the footprint of the waste and tailings pile by several hundred acres and increases the overall height of the piles. The pit size and placement would remain the same in all action alternatives.

Total area of disturbance would be approximately 4400 acres, similar to the Silverbell mine in size, and considerably smaller than the complex of mines near Green Valley.

For more information

The proposed Rosemont Copper Mine is under review by the U.S. Forest Service. For more information on the project, please visit the following websites.

U.S. Forest Service Rosemont Project EIS: http://www.rosemonteis.us/
Save the Scenic Santa Ritas: http://www.scenicsantaritas.org/
Rosemont Copper: http://www.rosemontcopper.com/
Pima County Air Quality: http://www.deq.pima.gov/permits/RosemontCopper.htm