

2/13/2014

To: Cal Joyner, Southwestern Regional Forester
USFS Southwestern Region
333 Broadway SE
Albuquerque, NM 87102

Re: Formal Objection to Final Impact Statement and Draft Record of Decision for the Rosemont Copper Project: A Proposed Mining Operation, Coronado National Forest

Objection to Final Environmental Impact Statement for Rosemont Copper Mine submitted by:

Hans Huth
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Project Name: Rosemont Copper Project: A Proposed Mining Operation
Responsible Official: Jim Upchurch, Forest Supervisor
National Forest, Ranger District: Coronado National Forest, Nogales Ranger District

Statement of objections

In regards to the FEIS, I will refer to comments associated with letter # 8220 where I site uncertainty regarding the groundwater models used to evaluate Rosemont Mine impacts. I ask the Forest Service to consider the following:

With respect to groundwater model boundary conditions, I note:

“In assessing the validity of these groundwater models”, I observed that flows through the assumed boundary conditions are extremely different. Model Boundary inflow (acre-ft/yr)
Boundary outflow (acre-ft/yr) Montgomery 2,509 2,282 Tetra Tech 24,465 26,116 Meyers 0 0
Although the DEIS quotes Montgomery and Associates on the need to assess boundary flows to determine model validity, no such assessment is reflected in the chapter. Instead, two of the models predict mining impacts in an arid domain using boundary conditions that allow “an unlimited amount of water to enter or leave the model”. This is a greater concern for the Tetra Tech model which used a constant head boundary around the entire model domain. **At a minimum, the order of magnitude difference between the Montgomery and Associates, and Tetra Tech model needs to be explained if all three models are to be used to gage impacts.**”

No such explanation is provided in the FEIS, rather, it points to model significant model uncertainty. Chapter 3 notes that “Uncertainty of modeling results increases with time” and “**Long term impacts are less certain or even speculative**”, not only because the uncertainty of the model results increases with time but because the cumulative effects from other future actions and climate change are difficult to predict. However, the Forest Service also states in its response: “The Forest Service has concluded that

the models **used are reasonable and acceptable for predicting impacts for the purposes of the FEIS.**

How can the Forest Service claim that “speculative” models are acceptable to predict impacts thus supporting your decision to approve the mine, particularly as it relates to a system that is at an “ecological tipping point” as stated in Chapter 3?

With respect to groundwater/surface water hydrologic connections, I originally noted:

“As noted on page 265 [of the DEIS]: **“The hydrologic connection between the fractured bedrock aquifer that will be dewatered during mine operations and by evaporation from the mine pit lake, and the basin fill aquifer through which Cienega Creek flows, is poorly understood.** Modeled impacts could be either less or more, depending on the nature of the hydrologic connection between these two aquifers, and the nature of the connection of Cienega Creek with the basin fill aquifer.” I am particularly concerned about the impact of uncertainty on intermittent reaches influenced by shallow groundwater.”

In response, page 539 of the FEIS simply changes its statement to read **“the weight of the available evidence suggest that lower Davidson Canyon is not hydraulically connected to the regional aquifer that would be impacted by the pit dewatering.”** There is no further explanation or rationale given; it appears no additional investigation was conducted; rather, the Forest Service simply changes its point of view. Based on that huge assumption, impacts to Davidson Canyon and the lower Cienega Creek are assumed to result only from loss of stormwater; groundwater is isolated from the analysis. Although this approach is very convenient, this does not demonstrate due diligence by the Forest Service in trying to understand the [as originally stated “poorly understood”] connection. This similarly impacts any analysis by the Forest Service regarding its own “hard look” on potential impacts on Outstanding Waters of Arizona.

Finally, my review of the original DEIS notes that

On page 220, the DEIS notes: “It is recognized that the record of historic water level data used as a basis for the model is largely limited to the period since 2008. It is also recognized that the spatial distribution of detailed geological data is limited to the immediate project area.” In this context, **I am concerned that the limited data considered for the groundwater flow models is not appropriate for gaging impacts on the lower Davidson Canyon as well as Cienega Creek.** I recognize that model limitations are acceptable if evaluated in the context of a sensitivity analysis.”

The Forest Service considers a sensitive analysis of the modeled results, but that analysis only confirms the significant uncertainty associated with the modeling; **appropriate data collection to better inform the models in question is not pursued.** Instead, the Forest Service makes broad assumptions about expected impacts based on uncertain [questionable] model results as they currently stand.

Groundwater is an essential variable in understanding the impacts of the mine on this resource. It is not clear to me how the Forest Service can make a decision on Rosemont without clearly understanding the impacts that this mine will have on groundwater and its connection with Davidson Canyon and Cienega

Creek; it is obvious in the final EIS that connections and potential impacts between the proposed mine and surface waters are not well understood as per the Forest Service's own statements in Chapter 3. Proposals to refine groundwater models after the mine has been approved and is in operation may not be effective at informing mitigation measures, particularly after the damage has already been done.

Please, consider improving your understanding of this delicate and rare resource by collecting additional data to better inform the groundwater models. We need to understand [potential] hydrologic connection between the proposed mine site, Davidson Canyon, and Cienega Creek. This may involve conducting geophysical surveys, drilling new wells for improved characterization of groundwater levels away from the mine site, and conducted associated pump tests particularly in the vicinity of Davidson Canyon.

Thank you for your consideration of my concerns,

A handwritten signature in blue ink, appearing to read 'Hans Huth', with a stylized flourish extending to the right.

Hans Huth