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August 22, 2005

Jeff Emde  
Arizona Dept of Environmental Quality,  
1110 West Washington Street, MC 5415B-3  
Phoenix, AZ 85007

RE: comments on AQUIFER PROTECTION PERMIT NO. P-101679

Dear Mr Emde,

Thank you for allowing me the opportunity to follow up on my oral comments on the aquifer protection permit no. P-101679 (Sierrita APP) with these written comments.

I am the Southwest Circuit Rider for Earthworks and manage Earthworks office in Tucson, Arizona. In my role as Circuit Rider, I regularly travel throughout the states of California, Nevada, Utah, Colorado, New Mexico, and Arizona to provide assistance to individuals and organizations concerned about the impacts of hardrock mining in those states. Earthworks is the nation's foremost conservation organization focusing on mining issues. Earthworks is a non-profit organization with members nationwide, including in Arizona. I am in close contact with many of Earthworks members that reside in Arizona and who regularly use and enjoy the lands that are and will be affected by the Sierrita Mine and who have a stake in making sure the Sierrita APP will protect the public.

Earthworks urges the Arizona Department of Environmental Quality to fix the major flaws in the Sierrita APP and re-circulate an improved draft for additional public comment. Although this process has dragged on for nearly 20 years, the time is right to take this APP permit seriously and to give Phelps Dodge a permit that will not only protect the public, but will have "teeth" to compel Phelps Dodge to take immediate action when needed. It is absurd that a company as large as Phelps Dodge is allowed to drag its feet for so long while – as everyone now admits – creating a toxic plume of sulfates that now threatens the ground water of Green Valley. In light of the time it's already taken, ADEQ might as well do the job right or not at all. In the meantime, while the final APP is hammered out, ADEQ should begin to hold Phelps Dodge to the most stringent terms of this draft Sierrita APP. In short, the time for study is over. It's time for ADEQ to force Phelps Dodge to clean up it's toxic plume.

Because of the short notice for comment and because it is the middle of summer and many staff are away on vacation, it has been difficult to find the staff and consultant time to give the draft APP more than a cursory overview. Earthworks urges the ADEQ to extend the comment

deadline. Earthworks also reserves the right to submit additional testimony beyond the deadline of August 22, 2005.

In general, the permit reads like it was written by Phelps Dodge. It gives many concessions to the mine and allows almost no protection for the rest of Arizona. While this might be understandable given the history of mining companies threatening ADEQ funding for having the audacity to enforce the law, it does not give ADEQ the right to abrogate its responsibility to the citizens of Arizona.

The following points need to be addressed and fixed before the Sierrita APP can be granted:

**The draft permit sets sulfate levels too high.**

Only two limits are being set for sulfates. A User Protection Level (UPL) of 400 mg/l (which may be modified to 450-525) is proposed for ESP-4 (one of four PDSI Esperanza wells, three of which are the temporary sources of CWC water replacing wells 7 & 8), An Alert Level (AL) of 650 mg/l is proposed for CW-8 as a Point of Compliance (POC) well. This "limit" exceeds the levels experienced by CWC in years past.

Accepting a standard this high is laying out the welcome mat for Phelps Dodge to allow current and past conditions to continue. The limits allow ESP-4, and the current temporary sources of CWC water, to degrade to 400-525 mg/l which is completely unacceptable to the public (This is the level that caused the shut down of wells 7 & 8 in 2005). The UPL should be should be set at ambient with AL of twice ambient.

ADEQ should be proactive in finding remedies to stop the degradation and spread of contamination before it reaches other well (or potential well) locations. The limit for sulfate and other contaminants at the POC should be at or near the ambient level, and the AL set no higher than twice the ambient level. This is necessary to stop further degradation now.

**The permit allows Phelps Dodge to study the sulfate plume moving toward Green Valley for another 18 months.**

The time for study is over and it's time for the permit to require immediate action by Phelps Dodge to eliminate the plume.

Rather than reinventing the wheel, I'll simply quote from the testimony of Nancy Freeman on this point:

"Not a single method for controlling the plume is mentioned in the Aquifer Protection Permit. This is totally unacceptable. In fact, Phelps Dodge is given another year and a half to 'study' the plume. That plume has been studied since the early 1980's by the mines' task force. ADEQ knows exactly where the plume is and what it is doing. Here are the words from an ADEQ Inter-Office Memo dated June 10, 1994.

“Groundwater in the area [Green Valley] flows to the east and northeast from the impoundment area. The groundwater velocity is approximately 500 ft/year, yielding a travel time of approximately 10 years from the impoundment to the town of Green Valley and its public supply wells. Issue: to what degree should we permit continued discharge and/or require remediation of the aquifer?”

The mining company knows exactly where that plume is and what it is doing—and if they don’t know it know after over 25 years, then they will never know! They know its six square miles in size. And the mining officials knew exactly where it was when the idea of using the Esperanza field wells was considered. The PD expert said, ‘Those wells are close enough to the plume that pumping of water will draw the plume over to them.’ Even if they don’t know exactly where it has expanded to—they do know that there are high levels of toxic—primary substances that have standards set by the EPA— at the monitor wells on the west side of the tailings dam.”

**Monitoring well data shows toxic materials – including uranium – already above levels considered acceptable for drinking water and far above acceptable levels in the Draft APP.**

Well data shows an accumulation of toxic materials including radium-226 and uranium. All are higher than considered acceptable in drinking water, in some cases four (4) times higher. The figures for these contaminants are already far above what is listed as the acceptable levels in the APP. Action must be taken immediately to remove these – and all – toxic materials from groundwater.

Furthermore, the testing of important primary inorganic chemicals, such as mercury, barium, beryllium and copper, has been very sporadic and must be ongoing and comprehensive. Limits should be set to the highest standards possible to protect public health and the environment. It’s only a matter of time before these toxics flow downhill into the aquifer and the permit does nothing to stop the flow.

**The draft APP set points of compliance only in Green Valley by the time the polluted plume reaches the compliance points, it would be too late to stop the plume.**

The POC should be as close to the border of the Sierrita mine as humanly possible. Phelps Dodge admits it has created a plume. It is their responsibility to now clean it up. To not test at the border of the mine property is to send a message to Phelps Dodge and other mining companies at work in Arizona that it is OK to pollute. Just don’t get caught polluting the water supply of a nearby town. The job of the ADEQ is to protect the environment for all Arizonans and its heritage, not to protect only the economic interests of Phelps Dodge.

**The permit does nothing to address open toxic ponds on the mine site which create a hazard for birds and wildlife.**

The Sierrita Mine has thousands of acres of open ponds. It’s a huge concern as to where the toxic chemicals in these ponds go, but it’s also a concern to all Americans as to what

happens to migrating birds that happen to drop in for a drink of water or to what happens to wildlife that cross the borders to drink from the ponds.

### **Lack of Closure plans, measures, or compliance points**

In general there is basically nothing on closure--as regards to water--how long will Phelps Dodge have to keep pumping the interceptor wells? What will happen when Phelps Dodge turns off the sump pumps at the bottom of the pit? Supposedly Phelps Dodge has put up closure and reclamation bonds--how much are they and exactly for what?

### **Water Balance**

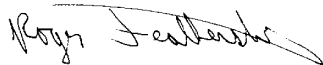
Phelps Dodge has recognized publicly that contamination of the aquifer is from the Tailings Impoundment. The amount and extent of damage to the aquifer is not known. A water balance of all liquids involved in the Tailings operation is needed to quantify this challenge, as well as tests and analysis of the affected areas. The contamination has reached public water supplies and future water supplies are threatened. The public has a right to know the results of tests and analysis that PD has obviously done in the course of a reasonable business approach to this challenge.

Water balance studies and monitoring must include all of the contaminated areas so that control technologies are effective in their design and implementation.

In conclusion, Earthworks urges the ADEQ to fully revamp this draft APP and actually make sure that Phelps Dodge protects the public, not just its bottom line.

The above list is just some of many problems with the draft APP. We look forward to working with the ADEQ to develop a truly effective APP for the Sierrita Mine that upholds the ecological heritage, quality of life, and long term well being of the area's communities for years to come.

Sincerely,



Roger Featherstone  
Southwest Circuit Rider  
Earthworks  
PO Box 43565  
Tucson, AZ 85733  
(520) 884-5415  
rfeatherstone@earthworksaction.org