



Janice K. Brewer
Governor

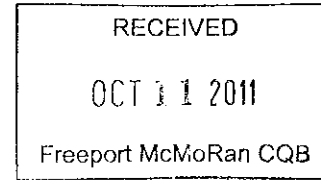
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Henry R. Darwin
Director

October 4, 2011



Rebecca A. Sawyer, Senior Environmental Engineer
Freeport McMoran Copper & Gold
Copper Queen Branch
36 West Highway 92
Bisbee, Arizona 85603

Re: Review of Revision 1 - Aquifer Characterization Report, Task 4 of Aquifer Characterization Plan for Mitigation Order on Consent No. P-121-07, Cochise County, Arizona, prepared by Clear Creek Associates, P.L.C., dated December 15, 2010.

Dear Ms. Sawyer:

The Arizona Department of Environmental Quality (ADEQ) has reviewed the Revision 1 – Aquifer Characterization Report, Task 4 of Aquifer Characterization Plan (ACR), dated December 15, 2010, that was submitted by Clear Creek Associated, P.L.C. on behalf of Freeport McMoran. The Report was submitted as a requirement of Mitigation Order on Consent No. P-121-07 to address the sulfate groundwater plume associated with the Freeport-McMoRan Corporation Copper Queen Branch (FMC-CQB) Concentrator Tailings Storage Area (CTSA).

Based upon their review, ADEQ approves the revised ACR. However, the following comments shall be addressed in the Feasibility Study (FS).

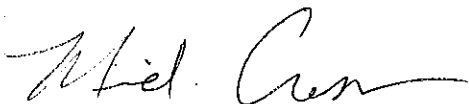
1. The revised ACR discusses the potential historical sources of sulfate as being the tailing impoundments, the former evaporation pond, and the former Warren Ranch irrigation area. The revised ACR then states that the primary sources of sulfate-bearing seepage to the sulfate plume were likely the former evaporation pond and the former Warren Ranch irrigation area. ADEQ agrees that the former evaporation pond and the former Warren Ranch irrigation area were sources of sulfate and that the tailing impoundments are not current sources. ADEQ does not agree that the seepage from the tailing impoundments and other facilities (i.e., Horseshoe Pond, SAC LOGS 1 and 2 and Phoenix Pacific Containment Ponds) were not a significant historical source of sulfate currently present in the aquifer. Although tailings are fine grained, they are typically significant sources of

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- seepage. The FS should include discussion of reclamation activities for the tailing impoundments to ensure that the tailings do not become a potential future source of sulfate contamination to the aquifer and discuss the various removal actions (SAC LOGS, Evaporation Pond, Phoenix Pacific Containment Ponds, Horseshoe Pond) and whether material remaining in place could continue to be potential sources of sulfate contamination to the aquifer.
2. The revised ACR discusses the fact that the former evaporation pond and the former Warren Ranch irrigation area were sources of sulfate bearing seepage to the aquifer. The FS should discuss and provide an analysis on whether the former evaporation pond, former Warren Ranch irrigation area, SAC LOGS, Horseshoe Pond, and Phoenix Containment Ponds areas are potential continuing sources of sulfate seepage. If so, the FS should discuss how these potential source areas could continue to impact the groundwater.
 3. The ADEQ agrees with the revised ACR that the majority of the sulfate plume is defined within the basin fill aquifer which is the primary source of drinking water for the communities of Bisbee and Naco. ADEQ agrees that simulating flow and transport within the basin fill is necessary. However, all groundwater within this area, both within the basin fill and bedrock is the only source of drinking water for all concerned. While the bedrock does not produce a lot of water, it is still an drinking water aquifer which people rely upon, and cannot be discounted from all future mitigation actions should significant sulfate concentrations be found within bedrock groundwater.

If you have any questions regarding this letter or wish to schedule a meeting for further discussion, please contact me at (602) 771-2209.

Sincerely,



Mindi Cross, Manager
Water Quality Compliance Section
Water Quality Division

Cc: Jerry Smit, Manager
Ground Water Section, Water Quality Division