



Copper Queen Branch/Freeport-McMoRan Corporation  
36 West Highway 92  
Bisbee, Arizona 85603

May 17, 2010

Ms. Cynthia S. Campbell  
Manager, Water Quality Compliance Section  
Arizona Department of Environmental Quality  
1110 West Washington Street  
Phoenix, Arizona 85007-2935

**Re: Groundwater Monitoring Program  
Mitigation Order on Consent No. P-121-07**

Dear Ms. Campbell:

Freeport-McMoRan Corporation, Copper Queen Branch (CQB) received the Arizona Department of Environmental Quality (ADEQ) letter of April 22, 2010 approving modification of the groundwater monitoring program with exceptions. The approval identified four exceptions to CQB's request to modify the groundwater monitoring program<sup>1</sup>. Starting in the third quarter of 2010, CQB will implement the groundwater monitoring plan revisions approved by ADEQ in its April 22, 2010 letter, including two of the four exceptions as discussed in our responses below. CQB requests that ADEQ reconsider the other two exceptions based on our responses to exceptions 3 and 4 as discussed below.

1. As requested by ADEQ, Well TVI 875 will remain on a quarterly sampling schedule.
2. As requested by ADEQ, water levels will be measured quarterly at wells sampled quarterly unless the well condition at the time of sampling precludes water level measurement.
3. CQB recommended that water sampling be discontinued at 14 drinking water supply (DWS) wells receiving an interim mitigation action. CQB does not understand ADEQ's rationale for requesting continued water sampling at these DWS wells.

*ADEQ disagreed with CQB's recommendation, stating that "Bottled water is an interim mitigation alternative, not final mitigation [sic] so further monitoring is necessary in preparing the final mitigation alternative and its impacts on these wells. In addition, human consumption is not the only recognized use of potable (drinking) water. Other*

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<sup>1</sup> Correspondence from Rebecca Sawyer, Copper Queen Branch, to Cynthia Campbell, Arizona Department of Environmental Quality. Regarding: Request to Modify Groundwater Monitoring Program, Mitigation Order on Consent Docket No. P-121-07. January 25, 2010.

uses include bathing and cooking, which presumably are not addressed by the provision of bottled water.” CQB agrees that bottled water is currently being provided as an interim mitigation action, and that there are uses of water other than human consumption. However, CQB does not understand how the data gathered through continued monitoring will be used to select interim or final mitigation actions for these DWS wells. CQB and ADEQ already agree that the sulfate concentration in the subject wells exceeds 250 milligrams per liter and that they require mitigation. This condition has been established in some cases by more than 9 quarters of sampling, as was the intent of the original groundwater monitoring program. Additional sampling is not needed to confirm the need for mitigation. Further, additional sampling at these wells would not generate data having a bearing on the other uses of water or the selection of a final mitigation action for these wells.

ADEQ goes on to state “Moreover, it appears that the sole justification for discontinuing the monitoring of these impacted wells is that FMC-CQB is providing bottled water to the owners.” This is an incorrect characterization of CQB’s rationale. CQB’s justification for discontinuing monitoring at DWS wells receiving interim mitigation, as stated in our request, is that “Water quality data from DWS wells receiving a mitigation action are no longer needed because the wells are known to be in the plume, are no longer used for DWS, and the data are not useful for mitigation planning.” As indicated in CQB’s request, “Sulfate concentration data from these wells are no longer needed for aquifer characterization, plume definition, or mitigation planning.” Thus, CQB’s rationale is driven by the data quality objectives described in Section 3.1 of the Work Plan<sup>2</sup>. Simply put, CQB believes that the Work Plan objectives for groundwater monitoring at these wells have been met (i.e., identification of DWS wells with elevated sulfate per Section 3.2 of the Work Plan and implementation of interim actions per Section 4 of the Work Plan) and that additional sampling is unwarranted because it provides no new information for decision making. CQB respectfully requests that ADEQ reconsider the need to monitor all the DWS wells receiving mitigation actions.

CQB does not understand ADEQ’s reason for requesting quarterly sampling at NWC-03 for the Mitigation Order just because it is a public supply well. As indicated in the request to modify the groundwater monitoring program, the reason other public supply wells are recommended for quarterly sampling is that they are “DWS wells outside of and within one mile of the plume”. NWC-03 does not meet this criterion because it is known to be in the plume, receives an interim mitigation action, and will receive a final mitigation action. Like other DWS wells receiving interim mitigation, there is no actionable information to be gained by continuing sampling at NWC-03 (i.e., the basic condition of the well is understood and the additional data will not change the need for a final mitigation action). Also, NWC-03 would continue to be sampled pursuant to ADEQ’s Safe Drinking Water Program.

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<sup>2</sup> Hydro Geo Chem, Inc. 2008. Revision 1. Work Plan to Characterize and Mitigate Sulfate with Respect to Drinking Water Supplies in the Vicinity of the Concentrator Tailing Storage Area, Cochise County, Arizona. July 3, 2008.

4. ADEQ indicates that well ROGERS 596 is not on the Table 1 submitted with the request to revise the groundwater monitoring plan and requests that it be sampled quarterly. ADEQ is correct that ROGERS 596 was not included on Table 1 of the request to modify the groundwater monitoring program. This issue is complicated due to a change in the well name. Late in 2009 it was determined that the well ROGERS 803, which was being sampled for the groundwater monitoring program, was misidentified and that the well name should be ROGERS 596. Thus, data previously attributed to ROGERS 803 was collected from the DWS well ROGERS 596. ROGERS 803 is identified on Table 3 of the request to modify the groundwater monitoring program as a well to be eliminated from groundwater sampling because it is a DWS well within the plume receiving an interim mitigation action. CQB requests the ADEQ reconsider this exception in light of this new information.

CQB would like to get ADEQ's decision on exceptions 3 and 4 by June 15, 2010 prior to the start of the third quarter 2010 monitoring event, so that we can plan accordingly. CQB appreciates ADEQ's time and consideration in addressing the request to modify the groundwater monitoring program. Please call me at (520) 432-6206 if you would like to discuss this matter further.

Sincerely,



Rebecca A. Sawyer  
Senior Environmental Engineer  
Copper Queen Branch

cc: Michael Jaworski, Freeport-McMoRan Corporation, CQB  
Sheila Deely, Freeport-McMoRan Corporation  
Stuart Brown, Freeport-McMoRan Corporation  
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