



Janice K. Brewer  
Governor

# ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Henry R. Darwin  
Director

MAY 08 2012

ARCADIS U.S., INC.

March 29, 2012

VRP 12:178

Mr. John Broderick  
Freeport-McMoRan Copper & Gold  
Sierrita Operations  
Post Office Box 527  
Green Valley, Arizona 85622-0527

RE: Review of *Work Plan for Training Facility Soil Excavation Project*  
Freeport Sierrita Mine  
Green Valley, Arizona; Site Code: 100073-03

Dear Mr. Broderick:

The Arizona Department of Environmental Quality (ADEQ) Voluntary Remediation Program (VRP) has completed its review of the report *Work Plan for Training Facility Soil Excavation Project*, dated February 29, 2012, prepared by ARCADIS on behalf of Freeport-McMoran Copper and Gold – Sierrita Operations (Sierrita), for the Freeport Sierrita Mine (“Site”). The work plan discusses proposed excavation and confirmation sampling in the former CLEAR Plant Area prior to the construction of a new training facility.

**The VRP has the following comments:**

1. General Comments –

- a. From statements in the work plan, the VRP understands that the soil cleanup levels in the area where the Training Facility is to be constructed is proposed to be to non-residential Soil Remediation Levels (nr-SRLs) and below Groundwater Protection Levels (GPLs). The VRP wants it clearly understood that soil contamination left in-place above residential SRLs will require either a Declaration of Environmental Use Restriction (DEUR) or a CLEAR Plant Area risk-assessment. The VRP recommends discussing the DEUR or risk-assessment options as soon as possible so it will be clear to the various parties how Sierrita plans to proceed with current and future remediation of the Sierrita Mine site within the VRP.
- b. For convenience and clarification, please modify Figure 3 to include the analytical results for the labeled samples, and the dimensions in length, width, and depth for each footer excavation and the southern excavation area. Please add sample ID CP-13 in its proper orientation relative to the proposed Training Facility.

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2. Section 4.1.1 –

This section of the work plan identifies the number of confirmation soil samples to be collected from each excavation area, the building footprint, and the parking lot. The VRP disagrees with the number of samples identified in Section 4.1.1 and requests the following modifications:

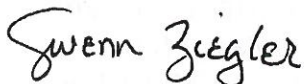
- a. Footer Excavation Areas: collect 1 floor sample for every 25 linear feet and 1 sidewall sample for every 25 linear feet along all excavation sides.
  - i. Floor and sidewall sample depths should be collected from areas where the highest concentrations would be expected based on prior investigations, visible contamination, or soil type/characteristics.
- b. Southern Excavation Area: without dividing the area in half, collect a minimum of 6 floor samples and 1 sidewall sample for every 25 linear feet along all excavation sides.
  - i. As noted above, floor and sidewall sample depths should be collected from areas where the highest concentrations would be expected based on prior investigations, visible contamination, or soil type/characteristics.
- c. Building Footprint Area: 1 surface sample is acceptable if the sample collection procedures stipulated in (a) and (b) above are met.
- d. Parking Lot Areas: Grid the Parking Lot Area sections into grids of approximately 625 square feet and, using a random number generator, collect a minimum of 4 samples within *each* of the three Parking Lot Area sections.
- e. Please clarify if the Parking Lot Areas will be surface graded or excavated.

3. Section 5.4 –

This section of the work plan discusses the disposition of material excavated from the footer and southern excavations. The VRP concurs with how the material will be handled following receipt of the analytical results except for the last sentence, which states "...If the results neither exceed the nr-SRLs, TCLP, or the recoverable copper grade, the material will be used as landfill cover at Sierrita." The VRP strongly cautions against depositing contaminated soil as landfill on top of either non-contaminated soil or other contaminated soil.

If you have any questions, please contact me by electronic mail at [dt3@azdeq.gov](mailto:dt3@azdeq.gov) or by telephone at (602) 771-4414.

Respectfully,



Gwenn Ziegler, Project Manager  
Voluntary Remediation Program



Danielle Taber, Project Manager  
Voluntary Remediation Program

cc: Stuart Brown, Freeport-McMoRan Copper & Gold, Senior Director – Remediation Projects  
Martha G. Mottley, Freeport-McMoRan Copper & Gold – Sierrita Operations, Chief  
Environmental Engineer  
[Katy Brantingham](#), ARCADIS, Project Manager