



Douglas A. Ducey
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Misael Cabrera
Director

Sent via U.S. Mail

March 17, 2020
VRP 20-133

Mr. David Rhoades
President and General Manager
Freeport-McMoRan Sierrita Inc.
P.O. Box 527
Green Valley, AZ 85614-0527

RE: Approval of Final Baseline Human Health Risk Assessment
Freeport Sierrita Mine, 6200 W. Duvall Mine Road, Green Valley, Arizona
VRP Site Code: 100073-03

Dear Mr. Rhoades:

The Arizona Department of Environmental Quality (ADEQ) Voluntary Remediation Program (VRP) has reviewed the *Baseline Human Health Risk Assessment* (BHHRA), revised in February 2020. The BHHRA was prepared by Arcadis U.S., Inc. on behalf of Freeport-McMoRan Inc. Sierrita Operations (FMI) for the FMI Sierrita Mine (the Site), located at 6200 West Duval Mine Road in Green Valley, Arizona.

Background of the BHHRA

The BHHRA was prepared by FMI to determine whether there are any potential human health risks associated with current and future land uses within the exposure areas (EAs) presented in the BHHRA. The EAs evaluated in the BHHRA include:

- The Former Copper Leach Electrowinning and Regeneration (CLEAR) Plant EA, including:
 - Former CLEAR Plant
 - Former E Pond
 - Former Evaporation Pond
 - Old D Pond
- The Former Esperanza Mill EA, including:
 - Former Esperanza Mill
 - Former C Pond and C Pond Spoils
 - Former Raffinate Pond
 - Former Laydown Yard.

The contaminants of concern (COCs) in soil and sediment evaluated in the BHHRA include arsenic, copper, lead, molybdenum, radium-226, radium-228, uranium-235, and uranium-238.

Consistent with ADEQ-accepted published regulatory risk assessment guidelines and requirements, FMI used soil and sediment data to estimate excess lifetime cancer risks (ELCRs) and non-cancer hazard indices (HIs) to human receptors. The BHHRA was prepared to focus on the potential for human health risks associated with current/future outdoor commercial/industrial workers, future trespassers, or future construction workers.

Conclusions of the BHHRA

Potential cancer risks calculated in this BHHRA were based upon site-specific parameters for current/future outdoor commercial/industrial workers, future trespassers, or future construction workers at the Former CLEAR Plant EA and the Former Esperanza Mill EA. The potential cancer risks were calculated to be within the target ELCR range of 1×10^{-6} to 1×10^{-4} for cancer risks, and cumulative HIs were less than the target HI of 1 for both EAs, as prescribed in Arizona Administrative Code (A.A.C.) Title 18, Chapter 7.

Site Path Forward

The VRP hereby approves the BHHRA. Under separate cover, the VRP will provide a letter granting permission to proceed with a formal request for Administrative Closure for the Former CLEAR Plant EA and the Former Esperanza Mill EA. The Administrative Closure will close out VRP requirements for FMI to conduct any further evaluation of the potential for human health risks associated with current and/or future outdoor commercial/industrial workers, future trespassers, and/or future construction workers within the EAs evaluated in the BHHRA.

Regards,



Scott Green, Manager
Voluntary Remediation Program

cc: Dave Gosen, FMI – *sent via email*
William Hart, FMI – *sent via email*
Katy Brantingham, ARCADIS – *sent via email*
Anne Thatcher, ARCADIS – *sent via email*