



Douglas A. Ducey
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Misael Cabrera
Director

Via Electronic Mail

December 1, 2022

Arizona Minerals, Inc. (AMI)
Attn: Mr. Brent Musslewhite
Director, Environment and Permitting
2210 E. Fort Lowell Rd
Tucson, Arizona 85719

Re: Determination of Applicability for the Hermosa Project NPAG Waste Rock
Inventory Number: 512235, LTF ID: 96752, Place ID: 150279

Dear Mr. Musslewhite:

The Arizona Department of Environmental Quality (ADEQ) has reviewed the Determination of Applicability (DOA) for the Hermosa Project Non-Potentially Acid Generating (NPAG) Waste Rock. Based on the information submitted with the DOA application received on November 14, 2022, **no Aquifer Protection Permit (APP) will be required** for the following reasons:

1. AMI plans to segregate NPAG from Potentially Acid Generating (PAG) waste rock from future mine development and production activities during the first five years of mining activities. The source of the waste rock will originate from the advancement of shafts and/or declines into the ore body.
2. A total of 444 geologic core samples were characterized for Acid Base Accounting (ABA) and net acid generation (NAG) pH. Kinetic (humidity cell) testing was also performed on 16 samples representing the six lithologic types present at the mine-site. The core samples were representative of the waste rock to be encountered during the advancement of the shafts and declines.
3. The majority of the ABA samples (80%) have a NAG pH greater than 4.5, which is indicative of NPAG material. Carbonate rock types (Concha, Epitaph, and Scherrer) predominantly have a higher neutralization capacity as indicated by higher NAG pH (> 4.5) and Net Neutralization Potential (NNP) (>+20). Whereas, the majority of the siliceous rocks (i.e., Hardshell Volcanics, Older Volcanics, and Meadow Valley Andesite) tend to be PAG as indicated by either the low NNP (<+5) or NAG pH (<4.5).
4. Ninety-five (95) samples that were determined to be NPAG were subjected to Synthetic Precipitation Leaching Procedure (SPLP) testing. The geometric mean for each constituent calculated for each of the rock types were all less than corresponding Aquifer Water Quality Standards (AWQS).
5. It is ADEQ's understanding that core samples will be analyzed using x-ray fluorescence (XRF) to determine NPAG/PAG characteristics during development of the mine shafts and declines. Calcium, magnesium, and sulfur concentrations measured real-time using XRF will be extrapolated from regression equations that correlates these elements with NNP. The XRF

Main Office

1110 W. Washington Street • Phoenix, AZ 85007
(602) 771-2300

Southern Regional Office

400 W. Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733

www.azdeq.gov

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measurements and subsequent NNP determinations will be used to segregate PAG (i.e., <+5) from NPAG material. The segregated PAG material will be placed in the on-site lined tailings storage facility that is permitted under the current APP (P-512235).

Based on the information in the application, waste rock identified as “NPAG” in this evaluation meets the definition of “inert” under A.R.S. § 49-201.22 because it is not acid generating and it does not leach constituents at concentrations above the Aquifer Water Quality Standards. The NPAG waste rock also meets the exemption from the APP program for storage, treatment or disposal of inert material under A.R.S. § 49-250(B)(20).

ADEQ may withdraw this decision if future changes in operation occur or if the information submitted in the DOA is found to be inaccurate. Further, this letter is not intended to waive any federal, state or local requirements. Additionally, if AMI encounters material containing different rock composition, a DOA to demonstrate that material is inert under A.R.S. § 49-201.22 is encouraged, otherwise, AMI cannot guarantee that the operations detailed in this DOA approval remain exempt as conditions change.

This decision is an appealable agency action under A.R.S. § 41-1092. You have a right to request a hearing and file an appeal under A.R.S. § 41-1092.03(B). You must file a written Request for Hearing or Notice of Appeal within **30 days** of your receipt of this Notice. A Request for Hearing or Notice of Appeal is filed when it is received by ADEQ’s Hearing Administrator as follows:

Hearing Administrator
Office of Administrative Counsel
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007

The Request for Hearing or Notice of Appeal shall identify the party, the party’s address, the agency and the action being appealed and shall contain a concise statement of the reasons for the appeal. Upon proper filing of a Request for Hearing or Notice of Appeal, ADEQ will serve a Notice of Hearing on all parties to the appeal. If you file a timely Request for Hearing or Notice of Appeal you have a right to request an informal settlement conference with ADEQ under A.R.S. § 41-1092.06. This request must be made in writing no later than **20 days** before a scheduled hearing and must be filed with the Hearing Administrator at the above address.

If you have any questions, please feel free to contact me by email at reeder.daniel@azdeq.gov or call (602) 771-4127.

Sincerely,

DocuSigned by:

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Daniel Reeder, Project Manager
Individual APP Uni
Groundwater Protection Value Stream (GVPS), Water Quality Division

cc: Ethan Leiter, Supervisor, Individual APP Unit
Vimal Chauhan, Environmental Engineer