



**State of New Mexico**  
**ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT**  
**and the**  
**ENVIRONMENT DEPARTMENT**

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Cabinet Secretary, NMED

**Electronic Transmission**

March 29, 2022

Kariann Sokulsky  
Chief Environmental Engineer  
Freeport-McMoRan Chino Mines Company  
P.O. Box 10  
Bayard, NM 88023

**Re: Conditional Approval of March 11, 2022 Submittal of Work Plan Continental Mine Test Plots and Borrow Material Update, MMD No. GR002RE and NMED DP-1403**

Dear Ms. Sokulsky,

The Energy, Minerals and Natural Resources Department, Mining and Minerals Division (MMD) and the New Mexico Environment Department (NMED) reviewed the Freeport-McMoRan Chino Mines Company – Continental Mine (FMI Chino) – March 11, 2022 submittal of a work plan entitled *Test Plots and Borrow Material Update* (Work Plan) prepared by Golder Associates. This Work Plan is the third in a series of work plans since 2019 related to construction of test plots.

As stated over the last three years, the agencies remain hesitant to agree that the cover system proposed to be tested in the Work Plan will successfully meet the performance criteria of the Mining Act, Copper Mine Rule and associated permits, and therefore, be approved as reclamation cover material (RCM) for the Continental Mine. The Agencies' skepticism is based on the observation of past test plots at this mine site that have not successfully demonstrated meeting Mining Act or Copper Rule requirements. Additionally, the Agencies have repeatedly requested testing an organic amendment and mechanical segregation of rock fragments using a grizzly or screening plant to determine if these treatments will aid in the establishment of vegetation. However, these specific treatments have not been included in the present Work Plan. The Work Plan proposes treatments that the Agencies are hesitant to endorse, such as blending sandy carbonate tailings with carbonate rocks, and the grain sizes provide few sites for nutrients to accumulate. Similarly, the Copper Mine Rule (20.6.7 NMAC)

requirements must be met to achieve an approvable RCM. The blending proposal mixes materials that have the same Water Holding Capacity (WHC), but different particle sizes.

Even the technical articles provided with the Work Plan consider tailing/waste rock blends largely as experimental or used in modelling exercises rather than being evaluated in long-term tests of a cover system. Of greatest concern is that proposed test plots number 2, 4 and 6 will blend tailing with Hanover Mountain material, which is potentially acid generating, contains high rock fragments, and contains poor nutrients, all of which do not meet the criteria for cover material. The agencies consider Hanover Mountain material to be waste rock that would need a need a cover system installed on top to be environmentally protective not a material to be blended into a cover system. As such, if FMI Chino proceeds with construction using Hanover Mountain material, Test plots 2, 4 and 6 will be considered by MMD and NMED as demonstration plots because the long-term sustainability of any early time successes may be thwarted by reacidification of the cover system over time, therefore likely resulting in failure of any established plant community.

Since a successful outcome remains uncertain for the proposed RCM test plots, the agencies completed a process to obtain financial assurance for hauling approved Santa Rita RCM to the Continental Mine. Because this supplemental FA protects the State in the event of a forfeiture, the agencies conditionally grant approval of the Work Plan, subject to conditions provided herein.

1. If the proposed test plots lack evidence of, or a trend towards successful establishment of vegetation based on plant diversity, density and percent cover after at least three growing seasons (fall of 2025 or later), any future effort by Chino FMI to demonstrate the viability of Continental Mine material as cover material shall include test plots to evaluate treatments that include an organic amendment and mechanical segregation of rock fragments. The Modification 21-2 of the GR002RE is in progress to update the permit condition regarding the test plot additional study that will further define this language.
2. During the first year of the test plots, leach testing (meteoric water mobility procedure tests and humidity cell tests) shall be done on both the Hanover Mountain material and blended Hanover Mountain ROM/tailing material. These tests shall be performed to determine if the Hanover Mountain material has the potential to generate water contaminants in exceedance of 20.6.2.3103 NMAC standards and to better understand the mid to long term effects of pH, nutrients and metals, which may affect soil suitability for plant growth. The agencies are concerned that there is not enough buffering capacity in the tailing to buffer the low pH (<5) Hanover Mountain material in the blended plots over time.
3. In year 5, at least one location at a depth of approximately 1.5 feet below ground surface in each of the Hanover Mountain demonstration plots 2, 4 and 6, shall be sampled and tested again for chemical and physical properties listed in Table 12 of the Work Plan in addition to performing meteoric water mobility tests.

Joint Agency Conditional Approval - Test Plots and Borrow Material Update Work Plan


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Please contact respective MMD and NMED permit leads Kevin Myers at 505-490-0726 and Anne Maurer at 505-660-8878 with any questions regarding permitting issues for the Continental Mine.

Sincerely,

Anne Maurer  
Mining Environmental Compliance Section  
Ground Water Quality Bureau - NMED

  
Kevin Myers  
Mining Act Reclamation Program  
Mining and Minerals Division-EMNRD

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