

State of New Mexico  
Energy, Minerals and Natural Resources Department

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**Susana Martinez**  
Governor

**Ken McQueen**  
Cabinet Secretary

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Deputy Cabinet Secretary

**Fernando Martinez, Director**  
Mining and Minerals Division



March 19, 2018

Mr. Thomas L. Shelley, Manager  
Freeport-McMoRan Chino Mines Company  
P.O. Box 10  
Bayard, NM 88023

**RE: Technical Comments on Revision 17-2 for the 9 Waste Rock Stockpile, New Unit Expansion, Chino Mine, Grant County, New Mexico, Permit No. GR009RE**

Dear Mr. Shelley:

The Mining and Minerals Division (“MMD”) has reviewed the request for Revision 17-2 from the Freeport-McMoRan Chino Mines Company (“Chino”), which consists of two documents: *Application to Revise Mining Permit GR009RE for 9 Waste Rock Stockpile* (“Application”), dated April 5, 2017, prepared by Chino; and *Waste Rock Stockpile Closure/Closeout Plan* (“CCP”), dated March 30, 2017, prepared by Golder Associates. As required by 19.10.5.505 and 19.10.5.506 NMAC, MMD has solicited comments on the proposed revision from the New Mexico Environment Department (“NMED”), Historic Preservation Division, Office of the State Engineer, State Forestry, and the New Mexico Department of Game and Fish (collectively referred to as the “cooperating agencies”). Revision 17-2 proposes the construction and conceptual reclamation of the 9 Waste Rock Stockpile (“9 WRS”) in the current Reservoir 9 location.

The comments from the cooperating agencies are included with this letter and are required to be addressed by Chino in order for MMD to proceed with permitting Revision 17-2. In addition, MMD has the following comments that are required to be addressed in writing:

1. Page 6 of the Application states that stormwater in the 9 WRS basin flows into the open pit and that there will be no change to the stormwater flow direction during construction of the stockpile. However, the proposed location for the 9 WRS is currently Reservoir 9 which appears to impound and retain impacted stormwater, with no surface drainage to the pit. Please address and clarify.
2. Page 6 of the Application states that Chino is not proposing to construct any impoundments as part of the 9 WRS. However, during operation of the 9 WRS, it appears that surface water will continue to be impounded, at least temporarily, within some portion of Reservoir 9. Please describe the anticipated location where surface water will be retained during operation of the 9 WRS. Further, please describe the long-

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term approach for stormwater detention/retention during operation, and post-reclamation, of 9 WRS, in the absence of needing an impoundment.

3. Page 11, Section 5.0 of the CCP states that “armored channels, perimeter berms and hydraulic structures will be designed to control erosion and safely convey stormwater.” Similarly, Page 12 states that “run-on from the surrounding terrain will be controlled by perimeter channels located around the 9 WRS” with these channels directing surface water flows around the perimeter of the stockpile. Sheet 6 does not show a typical schematic of either the proposed perimeter berms or perimeter channels. Please provide a typical schematic for these construction features.
4. Table 7-1 of the CCP: Please add a column to this table that reports the application rate of the proposed seed mix as PLS per square foot.
5. Table 7-3 of the CCP: 2.6% canopy cover seems low, but is this only accounting for the species listed in Table 7-1? Please provide a brief written explanation of the numerical diversity guidelines listed in this table and how these criteria were established.
6. Sheet 4 of the CCP: It is unclear where stormwater will be conveyed once the 9 WRS is reclaimed. Based on Sheet 4, it appears that stormwater will collect in a low point on the north-northwest side of the 9 WRS between the toe of 9 WRS and the mine haul road embankment. However, no impoundments are proposed in this location and this location does not appear to discharge via the surface to the pit due to the topography of the haul road embankment. Please describe where and how stormwater will be detained/retained post-reclamation.
7. Appendix A, Section 2.0, page 3 states that “the 9 Stockpile will be constructed at an overall slope that will result in 3:1 (horizontal:vertical) slope after reclamation benches are cut in.” Elsewhere in the Application and CCP, an overall slope of 3.5H:1V is proposed. Please clarify.
8. Appendix A, page 3 and Sheet 6 shows 2.0 feet of cover under the outslope terrace channel and downdrains, however, there should be a minimum of 3.0 feet of total cover over the waste material at reclamation. Please address.
9. Please describe the benefits and consequences of placing gravel over the cover material within the outslope terrace channels and downdrains versus using a geotextile material.
10. Please commit to soil salvage, where practicable, and proper storage of salvaged material prior to construction of the 9 WRS.

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Please provide the requested responses within 60-days after receipt of this letter.

If you have any questions, please feel free to contact me at (505) 476-3434 or by email at david.ennis@state.nm.us.

Sincerely,



David J. (DJ) Ennis, P.G., Permit Lead  
Senior Reclamation Specialist  
Mining and Minerals Division

cc: Mine File (GR009RE)