

State of New Mexico
Energy, Minerals and Natural Resources Department

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Electronic Transmission

January 11, 2023

Mr. Thomas L. Shelley, Reclamation Manager
Freeport-McMoRan Tyrone Inc.
P.O. Box 571
Tyrone, NM 88065

RE: Additional Comments on the Application for Modification 22-1 to Little Rock Mine, Permit No. GR007RE; and Modification 22-1 to Tyrone Mine, Permit No. GR010RE; Freeport-McMoRan Tyrone Inc.

Dear Mr. Shelley:

The New Mexico Mining and Minerals Division (“MMD”) received a letter from Freeport-McMoRan Tyrone Inc. (“Tyrone”), dated December 21, 2022 (“Tyrone Response Letter”), responding to comments that MMD and other state agencies had regarding the applications for Modification 22-1 to the Little Rock Mine, Permit No. GR007RE and the Tyrone Mine, Permit No. GR010RE (herein referred to as the “Applications”). The Applications request that MMD approve the Little Rock Precambrian granite as Reclamation Cover Material (“RCM”) for reclamation at the Little Rock Mine and the Tyrone Mine, respectively, and request that MMD approve the termination of the USNR Test Plot Study.

MMD has reviewed the Tyrone Response Letter and provides the following comments, with comment numbers corresponding to the responses in the Tyrone Response Letter.

MMD Comments

1. This response is acceptable to MMD.
2. After receiving the summary table on December 9, 2022 of previous studies, sampling efforts, and results of material characterized by Tyrone on the USNR test plots, USNR reclamation, Little Rock geologic material, and the 9A/9AX stockpiles, MMD remains concerned with the amount of data relating to the growth medium suitability of the Little Rock overburden in the 9A/9AX stockpiles and how it relates to the USNR test plots. Specifically, MMD would like to see a direct comparison and justification that the material on the USNR test plots is representative of the material within the 9A/9AX.

RE: Additional Comments on the Application for Modification 20-1 to Little Rock Mine, Permit No. GR007RE; and Modification 20-1 to Tyrone Mine, Permit No. GR010RE; Freeport-McMoRan Tyrone Inc.

January 11, 2023

Page 2

Based on the summary table provided by Tyrone, only one sample has been collected at the surface of the 9AX stockpile, and only three surface samples collected on the 9A stockpile. Surface samples, while informative, do not provide an indication of the variability of soil suitability within the 9A/9AX stockpiles. Additionally, sample size and scope should be expanded to describe the variability within the 9A/9AX stockpiles, with a direct comparison to the USNR test plot material. Interpreting the historical data of various sampling methods, sampling times, analytical methods, and sampling locations makes it difficult to draw a clear comparison between the characterization on the USNR test plots and the Little Rock overburden stockpiles.

While Tyrone has done extensive sampling of the Little Rock Precambrian granite under DP-435 to fulfill requirements under the Water Quality Act, growth medium suitability parameters such as total metals concentrations, cation exchange capacity, and organic carbon/organic matter were nonexistent or limited in scope of what was analyzed and reported on both the USNR test plots and the 9A/9AX stockpiles. Leachability studies do not provide total metals concentrations, which are a better indicator for identifying any potential concerns related to bioaccumulation of metals throughout the nutrient cycling process. Additionally, methods for determining rock fragment content differed across studies, and, as such, skew the comparison between the Little Rock overburden stockpiled material and the material on the USNR test plots.

MMD reiterates the request for more sampling of the 9A/9AX stockpiles and USNR test plots by Tyrone. MMD is requesting that Tyrone provide a clear comparison of how the material within the 9A/9AX is representative of the material that was placed on the USNR test plots prior to MMD approval of the Little Rock Precambrian granite as RCM. MMD appreciates the continued open dialogue regarding this decision and is willing to continue to provide more technical assistance in identifying parameters to sample in the development of a sampling and analysis plan.

3. While MMD appreciates the comparison of the 2022 vegetation surveys on the USNR reclamation compared to the reference area and the vegetation survey results for the Little Rock Mine Copper Leach Stockpile, MMD believes that performing a quantitative vegetation survey of the USNR test plots and the Tyrone Mine vegetation reference area indicated in the MMD comment letter dated November 21, 2022 will provide useful information that may enable the conclusion the USNR test plot study.
 - i. Paragraph 1 on Page 5 of the Tyrone Response Letter states that: *“In 2018, the reference area was not sampled because this is not a standard practice in the third year of a reclamation program, nor was it performed in previous test plot studies on Gila Conglomerate.”*

Previous test plot studies approved by MMD at the Tyrone Mine include quantitative vegetation sampling of the test plots and reference area in years 4 and 7 after seeding. Therefore, for Tyrone to perform a quantitative vegetation survey

of the USNR test plots and the Tyrone vegetation reference area in 2023, 8 years after seeding does not seem an unusual or unreasonable request.

- ii. Paragraph 2 on Page 5 of the Tyrone Response Letter states that: “ *performing another study on the test plots in 2023 would significantly delay this process as the results would not be available until early 2024.*”

MMD understands that Tyrone wishes to gain MMD approval of Modification 22-1, in part, to conclude the USNR test plot study in a timely manner, however, MMD will not be able to conclude its review of the application for Modification 22-1 until it receives the results of the additional sampling and characterization of the waste rock stockpiled in the 9A and 9AX waste rock stockpiles at the Tyrone Mine as indicated in MMD’s comment # 2 above. MMD suggests that the vegetation sampling at the USNR test plots in 2023 may be done concurrently with additional sampling of the 9A and 9AX stockpiles.

MMD reiterates the original comment 3 from the November 21, 2022 comment letter, providing an alternative path to compliance with Permit No. GR007RE for Tyrone: *MMD requests that Tyrone performs a quantitative vegetation survey at the USNR Test Plots and the Tyrone reference area in 2023 to compensate for not performing a vegetation survey of the Tyrone reference area in 2018.*

The vegetation sampling plan proposed by Tyrone and approved in Modification 17-1 included vegetation sampling in year 3 (2018) and year 5 (2020) after seeding. MMD has requested that Tyrone perform the vegetation sampling of the USNR test plots and reference area in 2023 as an alternative for the required 2018 vegetation sampling of the USNR test plots and Tyrone reference area.

MMD is forwarding the Tyrone responses to the New Mexico Environment Department (“NMED”) and the New Mexico Department of Game and Fish (“NMDG&F) for their review and additional comments, if any, on the Applications.

Please respond to MMD’s comments above within 30 days of receipt of this letter. If you have any questions, please contact me at (505) 216-8399 or at carmen.rose@emnr.d.nm.gov.

Sincerely,



Carmen Rose
Mining Act Reclamation Program (“MARF”)
Mining and Minerals Division

CC: Raechel Roberts, Environmental Scientist II, Tyrone Mine

RE: Additional Comments on the Application for Modification 20-1 to Little Rock Mine, Permit No. GR007RE; and Modification 20-1 to Tyrone Mine, Permit No. GR010RE; Freeport-McMoRan Tyrone Inc.

January 11, 2023

Page 4

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Anne Maurer, MECS, NMED GWQB
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Mine Files (GR007RE and GR010RE)