

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Mike Tompson, Interim Director
Mining and Minerals Division



December 6, 2019

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

RE: Comments on 2013 Tyrone Mine Closure/Closeout Plan Update, and Earthwork Cost Estimate Summary Report, Permit Revision 09-1, Permit No. GR010RE, Tyrone Mine

Dear Mr. Shelley:

The New Mexico Mining and Minerals Division (“MMD”) MMD has reviewed the 2013 Tyrone Mine Closure/Closeout Plan Update, dated July 2019 (“revised updated CCP”), and the Earthwork Cost Estimate Summary Report (“Summary Report”), dated May 2019. We met with Tyrone Mine staff, NMED staff and the representatives from the Gila Resources Information Project (“GRIP”) in a WebEx meeting on October 10, 2019. At that meeting, MMD presented some of its comments on the Tyrone Mine submittals and is now following up with written comments. Please review the MMD comments provided herein and respond to these comments within 30-days. We are scheduled to meet with you on the Tyrone Mine closeout plan via a WebEx meeting on December 10, 2019 and we are available to discuss the MMD comments at this meeting.

1. Section 2.1.1, Open Pits, page 7 of the revised updated CCP discusses the main open pit, other open pits and certain stockpiles, or portions thereof, at the Tyrone Mine that MMD has approved a conditional waiver from the requirement of achieving a self-sustaining ecosystem pursuant to 19.10.5.507.B NMAC. MMD will continue the requirements and conditions of Revision 10-1 for the conditionally waived areas at the Tyrone Mine in Revision 09-1 for the Tyrone revised updated CCP.
2. Section 2.3.7, Material Characteristics, Borrow Materials, page 22 of the revised updated CCP discusses the Gila conglomerate cover material and associated soils that have been approved by MMD for use as vegetative reclamation cover material. Tyrone proposes that MMD consider approval of the Precambrian Granite overburden and associated intrusive rocks from the Little Rock Mine as reclamation cover material based on the preliminary results of the USNR test plots. MMD will determine whether these materials will be approved as reclamation cover material after the final results of these test plots has been received and reviewed.

3. Section 5.5.2, Management and Treatment Processes, Sludge and Salt Management, page 56 of the revised updated CCP states that, “*The closure/closeout activities planned for the SDF [Sludge Disposal Facility] and the HDPE-lined salt disposal facility are the same as those described for the stockpiles in Section 5.2.1.*” Section 5.2.1, Stockpiles Located Outside the OPSDA and Conditional Waiver Area, Planned Closure /Closeout Activities, page 42 of the revised updated CCP and associated Table 4-2, Summary of Key Design Criteria for Facilities to be Closed, and Section 5.2.2, Stockpiles Located Inside the OPSDA and Conditional Waiver Area, Planned Closure/Closeout Activities, pages 43-44 of the revised updated CCP and associated Table 4-2, do not provide a narrative on the reclamation of the SDF and the HDPE-lined salt disposal facilities (as shown in Figures 3 and 5 of Appendix D, Basis of Cost Estimate for Water Management and Treatment) of the revised updated CCP, although cost estimate details are provided in Attachment B5, Sludge and Salt Disposal Cost Backup Details of Appendix D. Please provide a brief description of the reclamation plan for the SDF and salt disposal facilities.
4. Table 7-1, Proposed Interim Seed Mix and rates for the Tyrone Mine Reclamation Sites – the Total PLS (pounds per acre, lbs./acre) proposed in the revised updated CCP is 5.6 lbs./acre, whereas the Total PLS approved in Modification 06-3 to Permit No. GR010RE is 9.1 lbs./acre. In addition, the proposed Alternate reclamation seed mix for the Tyrone Mine does not include as extensive of a list of alternate or substitute plant species as approved in Modification 06-3. The proposed seed mix eliminates the cool season grasses from the seed mix. While MMD has agreed with Tyrone regarding the lack of success in the past of establishing the cool season grasses, Tyrone should provide in the updated CCP an explanation for the proposed changes in the seed mix from previously approved seed mixes.
5. Table 1, Reclamation Overview, page 3 of the Summary Report indicates that the Stockpile 2A interior slope will be reclaimed using a 2-foot thick cover imported from the 9AX stockpile along with a 1-foot thick cover of Gila [conglomerate] from the Lube Shop Area. Section 2.4, Changes from Previously Submitted CCP Update, page 10 and Section 3.0, Calculations, page 19-20 of the Summary Report, indicate that the 2A stockpile will be reclaimed using a 2-foot thick cover sourced from the 9AX stockpile, and a 1-foot thick cover of Gila conglomerate. The 9AX stockpile consists of Precambrian Granite overburden from the Little Rock Mine. As this material has not yet been approved by MMD as reclamation cover material, Gila conglomerate is the approved cover material, Tyrone should revise the closeout plan for the 2A stockpile to include a 3-foot thick cover of Gila conglomerate cover material.
6. Table 1, Reclamation Overview, page 4 of the Summary Report indicates that the reclamation 9A stockpile will not require imported cover material and that the 9AX stockpile will be covered with a 1-foot thick cover of cover material [Gila conglomerate]. Table 4-2: Summary of Key Design Criteria for Facilities to be Closed, of the revised updated CCP indicates that the 9A stockpile may be used as a

borrow source and is not projected to require imported cover material. Section 3.0, Calculations, Table 5, Reclamation Activity by Facility Type, page 17 of the Summary Report indicates that the 9A stockpile will receive no cover material, and the bullet for Cover on page 19-20 of the Summary Report indicates that the 2A stockpile will receive a 2-foot thick cover sourced from the 9AX stockpile (along with a 1-foot thick cover of Gila conglomerate). The 9A stockpile is composed of Precambrian Granite from the Little Rock Mine (the same material as the 9AX stockpile) and should be subject to the same reclamation requirements of the 9AX stockpile (i.e., 1-foot cover of Gila conglomerate). Section 2.1, Earthwork Processes and Equipment, Borrow Areas, page 7 of the Summary Report indicates that for the purposes of the reclamation cost estimate, that Gila conglomerate and the Precambrian Granite of the 9AX stockpile are assumed as borrow sources for reclamation cover material. Tyrone should revise the closeout plan for the 9A stockpile excluding it as a source of reclamation cover material and include the placement of a 1-foot thick cover of Gila conglomerate over it during reclamation and revise the reclamation cost estimate to use only Gila conglomerate as reclamation cover material.

7. Table 4, Miscellaneous Unit Costs, Well Plug & Abandon of the Summary Report lists \$10.55 per foot whereas the cost estimate for well plugging and abandonment is \$18.17 per foot per Chino response #3 in July 15, 2019 letter to joint MMD/NMED comments for the Cobre Mine updated CCP. Please adjust the well plugging and abandonment cost to \$18.17 per foot for the Tyrone updated CCP or provide an explanation for this difference.
8. Appendix A, Cost Spreadsheet, Stockpile Spreadsheet Worksheet #14; Revegetation Unit Cost spreadsheet; and Appendix B.5, Direct Quotes, Rocky Mountain Reclamation Price Estimate for Revegetation Services of the Summary Report. MMD requests that Tyrone provide an explanation of the revegetation cost estimation resulting in the unit cost of \$820.12 per acre shown in Table 4, Miscellaneous Unit Costs, page 16 of the Summary Report, where the direct quote from Rocky Mountain Revegetation equates to a revegetation cost of approximately \$1099 per acre.
9. CSG Stockpile – Condition 9.C of Permit Modification 19-1 of Permit No, GR010RE requires that Tyrone provide a sampling and analysis plan for the Gila conglomerate excavated from the 5A stockpile and Mohawk Area of the Tyrone Mine that is being placed on the CSG stockpile. MMD will require a similar sampling and analysis plan for areas of the mine that Tyrone proposes as cover material that have not yet been characterized and approved by MMD as cover material borrow sources.
10. Financial Assurance – Collateral Properties – In a letter to Stuart Butzier of Modrall Sperling dated December 28, 2018, MMD acknowledged the 2014 appraised ranch collateral properties, a significant part of the overall financial assurance (FA) for the Tyrone Mine Permit No. GR010RE. The 2014 appraised ranch collateral properties total \$60,686,500 and pursuant to the currently approved FA for the Tyrone Mine,

MMD recognizes eighty percent (80%) of the appraised values or \$48,549,200 towards the \$179,504,992 NPV FA currently required. Although the amount of FA for the updated Tyrone Mine Closeout Plan has not yet been agreed upon by Tyrone and MMD (and NMED), MMD is requesting an update on the progress of the 2019 re-appraisal of the ranch collateral properties that is required under Revision 01-1.

11. Financial Assurance – MMD and NMED are currently reviewing the FA cost estimate for the Tyrone updated CCP. In January, 2019 MMD, NMED and Tyrone agreed on the Indirect Costs to be used in the cost estimate. MMD and NMED are currently discussing with the Tyrone, Chino and Cobre mines the Net Present Value (NPV) calculation of the FA cost estimate. Once MMD has determined that the Tyrone updated CCP is technically approvable, MMD will require that Tyrone submit a FA proposal pursuant to 19.10.5.506H NMAC. However, MMD believes that initiation of a discussion with Tyrone on the FA proposal could occur sooner. MMD is available to begin a discussion with Tyrone on the FA proposal prior to the approval of the FA cost estimate.

If you have any questions in this matter, please feel free to contact me at 505-476-3432 or at David.Ohori@state.nm.us.

Sincerely,



David R. Ohori, Permit Lead
Mining Act Reclamation Program (“MARP”)
Mining and Minerals Division

cc: Mandy Lilla, Senior Mine Engineer, Freeport-McMoRan Tyrone Inc.
Holland Shepherd, Program Manager, MARP
Keith Ehlert, Mining Environmental Compliance Section, NMED Ground Water
Quality Bureau
Allyson Siwik, Executive Director, Gila Resources Information Project
Mine File (GR010RE)