

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

Jerry Schoeppner, Director
Mining and Minerals Division



Via ELECTRONIC MAIL

November 3, 2020

Mr. Erich J. Bower, President & General Manager
Freeport-McMoRan Tyrone Inc.
P.O. Box 571
Tyrone, NM 88065

RE: Comments on the Application for Revision 20-1 to Little Rock Mine, Permit No. GR007RE, Freeport-McMoRan Tyrone Inc.

Dear Mr. Bower:

On June 26, 2020, the New Mexico Mining and Minerals Division (“MMD”) received an application (“Application”) and an Updated Closure/Closeout Plan (“Updated CCP”) for the Little Rock Mine from Freeport-McMoRan Tyrone Inc. (“Tyrone”) requesting a revision to Permit No. GR007RE. The revision application (assigned by MMD as Revision 20-1) for the Little Rock Mine permit proposes to:

- A. Expand the Mine Permit Area and Boundary.
- B. Expand the Mine Area Design Limit Boundary.
- C. Expand the Main Open Pit, and the existing In-Pit Stockpiles.
- D. Construct new Waste Stockpiles and remove the reclaimed Copper Leach Stockpile.
- E. Modify the timing of the Deadman Canyon Diversion construction.
- F. Update the Mine Closure/Closeout Plan (“Updated CCP”).

MMD has reviewed the Application and the Updated CCP, deeming the Application administratively complete on July 6, 2020, and has requested comments from other state and federal agencies and tribal entities. Portions of the Little Rock Mine are on lands administered by the U.S. Bureau of Land Management (“BLM”) and the U.S.D.A. Forest Service (“USFS”).

MMD currently has no comments on the Application itself, but provides the following comments on the Updated CCP, and attaches the comments from the other state agencies and a member of the public. Please review all the comments and respond within 60-days of receipt of this letter.

1. Section 1.6, Proposed Modifications to Permit Boundary and Open Pit Design Limit, page 4 of the Updated CCP states that Tyrone proposes to expand the Little Rock Mine Permit Boundary by 348 acres and the Mine Area Design Limit by 558 acres as shown in Figure 1-3 of the Updated CCP. The proposed expansion of the Permit Boundary and the Design Limit shows large, undisturbed areas within these boundaries near the Whitewater Canyon and the California Gulch located to the north and west of the proposed 2024 extent of mine disturbance. If Tyrone proposes future mine disturbance in these undisturbed areas, MMD will require a closeout plan and financial assurance for the proposed disturbance(s) and Tyrone will be required to apply for a permit modification or revision to the Little Rock Mine permit.

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In addition, if Tyrone performs exploration drilling in the undisturbed areas located within the expanded Permit Boundary, MMD will require that Tyrone provides adequate financial assurance to plug and abandon the exploration drill holes and reclaim the surface disturbance at the drill sites and exploration access routes.

2. Section 2.1.4.2, Substation, Concrete Slabs, and Powerlines, page 7 of the Updated CCP states that *Power poles will be left in place to serve as raptor perches after reclamation*. See New Mexico Department of Game and Fish (“NMDG&F”) comments attached. MMD concurs with the NMDG&F comments and does not support leaving power poles in-place after reclamation as raptor perches.
3. Section 2.3.4.1, Surface Water, page 11 of the Updated CCP states that, *A diversion channel will be constructed during closure to convey surface water flows from Deadman Canyon along the eastern portion of the open pit*. Figure 1-3, Proposed Changes to Mining Area Design Limit and Little Rock Mine Permit Boundaries, shows an alignment of the Deadman Canyon Diversion. Is the alignment of the Deadman Canyon Diversion shown in Figure 1-3 representative of the diversion channel constructed at mine closeout as stated in Section 2.3.4.1?
4. Section 2.3.8, Overburden Materials, page 15 of the Updated CCP states that the Little Rock mine topsoil salvaging plan will identify and salvage topsoil resources. Tyrone should include in the topsoil salvaging plan the recovery the cover material currently covering the reclaimed Copper Leach Stockpile and P-Plant area (as applicable) for use in future reclamation of the mine. MMD requests that Tyrone submit the topsoil salvaging plan including the proposed location(s) for storage of the Copper Leach Stockpile cover material and topsoil. The topsoil salvaging plan should include methods for preservation of the topsoil and salvaged cover material (i.e., seeding and preventing erosional loss).
5. Section 3.1.2.2, Ground Water Flow Modeling Results, page 17 to 18 of the Updated CCP provides some of the pit lake conditions following closeout on the mine. Please provide the approximate total surface area and volume of water that the pit lake is predicted to contain at 30 years following mine closeout and the approximate pit lake water volume of water at 80 years after mine closeout. In addition, although Sheet 3, Proposed Mine Layout Post Reclamation of Appendix A of the Updated CCP depicts the pit lake, it would be helpful for Tyrone to provide a figure, similar to Figure 2-1, EOY [“End of Year”] 2024 Little Rock Mine Facilities and Mine Permit Boundaries of the Updated CCP that shows the pit lake at EOY 2024.
6. Section 3.1.5, Infrastructure and Other Miscellaneous Facilities, page 20 of the Updated CCP states that, *an additional 10 acres of area will be included in the reclamation cost estimate for allowance for additional disturbed areas within the Mine Permit area*. Please specify the rationale used to determine that 10 acres of additional disturbed area in the reclamation cost estimate will be adequate. Additionally, for the purposes of the reclamation cost estimate, will the reclamation costs for the additional 10 acres of disturbed area include costs for applicable regrading, stormwater handling features, and cover material placement if the additional disturbed area(s) includes stockpiles?

7. Section 3.2.1, Stockpiles, Stockpile Cover and Revegetation, page 21 of the Updated CCP, states, *Areas where the seedbed has limited fines and are rocky will receive four (4) inches of additional fine-grained cover material (obtained locally) to improve seedbed conditions.* Please explain the rationale for determining that 4-inches of additional fine-grained cover material will be sufficient (as opposed to a greater thickness) to improve seedbed conditions during reclamation and explain the criteria that will be used to decide where it is necessary to place this additional cover material. Define what “fine-grained cover material” is in terms of U.S. Department of Agriculture (“USDA”) size and textural parameters, specify the location(s) where the fine-grained cover material will be obtained and specify how Tyrone will excavate and apply these cover materials.
8. a. Section 3.2.2, Open Pit, page 21 of the Updated CCP states, *The performance objectives for closure/closeout of the Little Rock open pit includes establishment of a self-sustaining ecosystem, and, The Pit configuration at the EOY 2024 will encompass approximately 260 acres.* Where applicable, please specify and describe the areas within the open pit that Tyrone proposes will not be actively reclaimed (e.g., open pit highwalls, etc.). Tyrone should also state why these areas will not be actively reclaimed.

b. Figure 6-1, Proposed Wildlife Habitat Post Mine Land Use [“PMLU”] Area shows that the entire mine area is proposed as wildlife habitat following mine closeout. Figure 6-2, Disturbance Areas at the EOY 2024, shows Existing Unit and New Unit areas of the mine including the proposed open pit and stockpile disturbances at EOY 2024. Section 19.10.5.507.A NMAC, Performance and Reclamation Standards and Requirements, provides the performance and reclamation standards for Existing Unit disturbances. Section 19.10.5.508 NMAC, New Units, provides the performance and reclamation standards for New Unit disturbances. Figures 6-1 and 6-2 of the Updated CCP indicate that the entire proposed Little Rock Mine area will have a wildlife PMLU and the proposed disturbed area will meet either the Section 507.A or Part 508 performance and reclamation standards. If Tyrone intends to leave any disturbed areas such as open pit highwalls at the Little Rock Mine un-reclaimed, Figures 6-1 and 6-2 should be revised to show these areas.
9. Section 3.2.5, Infrastructure and Other Miscellaneous Facilities, page 22 of the Application states that, *Utility poles associated with the power line will be left in place as bird perches to support the designated Lost Mine Land Use.* Please see Comment #2, above.
10. Section 4.1, Stockpiles, page 23 of the Updated CCP states, *the stockpiles will (or are) composed of non-acid generating material overburden waste rock.* Tyrone has proposed regrading the Little Rock Mine waste rock stockpiles, providing stormwater controls and revegetating the stockpiles with no additional vegetative cover material other than providing 4-inches of fine-grained cover material in places to improve seedbed conditions where needed (see Comment #6 above). MMD requires that Tyrone has a current approved material handling plan to assure that acid generating rock will not be placed on the stockpiles. In addition, MMD has not yet approved the pre-Cambrian waste rock overburden material from the Little Rock Mine as suitable vegetative cover material. This material is currently being evaluated as a vegetative cover material at the USNR test plots at the Tyrone Mine and the results of these test plots are not yet known. Depending on the results of these test plots, Tyrone may be required to propose an alternative vegetative cover material and revise the closeout plan and financial assurance for the Little Rock Mine.

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11. Section 4.2.2, Planned Closure/Closeout Activities [Open Pit], page 24 to 25 of the Updated CCP provides information on the closeout of the open pit. MMD requests that Tyrone justify how the closeout plan for the open pit proposed in the Updated CCP will meet a PMLU or self-sustaining ecosystem (“SSE”) pursuant to 19.10.5.507.A NMAC, and why Tyrone is not seeking a waiver pursuant to 19.10.5.507.B NMAC for the open pit. Also, please see Comment #7a, above.
12. Section 5.4, Revegetation Success Monitoring, page 30 of the Updated CCP, provides general details on the post-reclamation vegetation monitoring that will be performed at the Little Rock Mine. Section 2.3.8, Overburden Materials, page 14 of the Updated CCP mentions the USNR test plots, however, it does not describe the treatments being tested at the test plots. MMD requests that additional information on the USNR test plots should be included in the Updated CCP that includes a brief description of the test plot treatments, a timeline of the USNR test plot construction and monitoring and provides a drawing depicting the test plots.
13. Section 6.1, Post-Mining Land Use Designation, page 32 of the Updated CCP, states that the power poles will remain in place to provide perching spots [for birds]. Please see Comment # 2, above.
14. Section 6.2, Site Specific Revegetation Success Guidelines, page 33 of the Updated CCP discusses the use of a vegetation reference area in determining revegetation success. Appendix A of Revision 14-1 to Permit No. GR007RE requires Tyrone to submit, prior to revegetation success monitoring, a suitability review for the approved vegetation reference for the Little Rock Mine, which is currently the same approved vegetation reference area for the Tyrone Mine. MMD intends to include this requirement for the revegetation success monitoring requirements of Revision 20-1.
15. a. Section 6.2.3, Plant Diversity, page 34 of the Updated CCP discusses the plant diversity requirements for the revegetated areas of the Little Rock Mine after mine closeout and proposes the technical standard to be used to evaluate plant diversity. It states that, *site stability and erosion control are primary performance objectives*. Since the PMLU for the Little Rock Mine is wildlife habitat, another primary performance objective is the establishment of vegetation that is supportive of wildlife habitat.

b. Section 6.2.3, Plant Diversity, page 34 of the Updated CCP does not provide a rationale for the removal of the cool season grasses from the Proposed Interim Seed Mix shown in Table 6-1 of the Updated CCP. Section 7.3.3, Plant Diversity of the 2013 Tyrone Mine Closure/Closeout Plan Update, as revised April 29, 2020 (“Tyrone Updated CCP”), discusses the removal of the cool season grasses from the plant diversity numerical standard and the Tyrone Proposed Interim Seed Mix. Please include a similar discussion for the Little Rock Updated CCP.

c. Table 6-3, Proposed Plant Diversity Guidelines for the Little Rock Mine, shows that the Minimum Occurrence (% cover) for shrubs to be 0.5%, however, the minimum shrub diversity occurrence proposed in Section 6.2.3 of the Updated CCP is 1%. The minimum shrub diversity occurrence approved in Revision 14-1 to Permit GR007RE for the Little Rock Mine is also 1%. Please correct the minimum shrub diversity occurrence in Table 6-3 to 1%. Also,

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- please note that Section 7.3.3, Plant Diversity and Table 7-4 of the 2013 Updated Tyrone CCP (dated April 29, 2020) has the same discrepancy.
16. Section 7.0, Basis for Capital and Operation and Maintenance Cost Estimates, and Appendix C, Reclamation Cost Basis Summary Report of the Updated CCP, state that the reclamation cost estimate for the Updated CCP will be submitted once the scope of work is approved. MMD generally approves the scope of work for the reclamation plan presented in the Updated CCP and requests a draft of the reclamation cost estimate (see comments below). MMD believes that by reviewing the draft cost estimate prior to final approval of the scope of work and determining that the application for Revision 20-1 is technically approvable will better support MMD's processing the Application a timely manner.
 17. Section 7.1, Basis for Capital Cost Estimates, page 36 of the Updated CCP shows 10 acres for the Allowance for Other Disturbed Area in the Earthwork Material Take-Off Summary table. Please see Comment #6, above.
 18. Section 7.2, Basis for Operational and Maintenance Cost Estimates, Erosion Control and Monitoring, page 37 of the Updated CCP; and Section 3.6, Erosion Control and Monitoring, page 22 of Appendix C, Reclamation Cost Basis Summary Report, state that the annual erosion control and monitoring cost estimates will be based on an erosion control crew engaged for 10 days per year for the first year [after mine reclamation] and then 4 days per year for an additional 11 years. How many people are proposed for the erosion control crew?
 19. Section 8.0, Reclamation Schedule, page 38 of the Updated CCP, states that, *The EOY 2024 was chosen for the development of the CCP in that it represents the most conservative earthwork takeoff volumes and thus the highest reclamation cost estimate for the five-year period under evaluation.* Please confirm that the EOY 2024 represents the highest reclamation cost estimate for the five-year period 2021 to 2025 since the processing of Revision 20-1 is likely to extend into 2021 and the consequent five-year approval period of the Updated CCP may extend into 2026.
 20. Table 3-2, Summary of Key Design Criteria for Facilities to be Closed, page 2 of 2 of the Updated CCP, states that, *Power poles will be left in place to serve as raptor perches after reclamation.* Please see Comment #2, above.
 21. Table 6-1, Proposed Interim Seed Mix and Rates for the Little Rock Mine Reclamation Sites of the Updated CCP. MMD has received comments from a botany professor at Western New Mexico University regarding whether certain plant species from the proposed seed mix (Interim Seed Mix and Alternate Seed Mix) are native to Grant County, southwest New Mexico or to the United States. The list of plant species is attached along with a letter from a resident of the Oak Grove subdivision that accompanied the list. The letter also contains several comments and questions regarding the Little Rock and Tyrone Mines. Please respond to the letter and plant species list.
 22. Figure 1-2, Existing Little Rock Mine facilities and Permit Boundaries of the Updated CCP. Please provide a revised drawing with a 1 inch = 800 feet scale to facilitate the comparison with the other figures in the updated CCP.

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23. Figure 1-3, Proposed Changes to Mining Area Design Limit and Little Rock Mine Permit Boundaries of the Updated CCP. Please provide a revised drawing that more clearly shows the current boundary between the Little Rock Mine and the Tyrone Mine (i.e., the combination magenta and blue line should show the blue portion of the line in bolder thickness).
24. a. Figure 2-1, EOY 2024 Little Rock Mine Facilities and Mine Permit Boundaries of the Updated CCP. Although this figure is intended to show the mine facilities at EOY 2024 it would be helpful to the viewer to add a line depicting the extent of the open pit at the predicted end of mine life. In addition, if applicable, please add a line depicting the Deadman Canyon Diversion to this figure.

b. Section 3.1.2, Open Pit states that, *a total of approximately 4.9 acres of accessible flat areas [are] targeted for reclamation (Figure 2-1)*. Figure 2-1 in the Updated CCP does not show the proposed accessible flat areas that are targeted for reclamation. Please delineate the 4.9 acres of accessible flat areas on Figure 2-1 or another figure of the Updated CCP.
25. Figure 6-1, Proposed Wildlife Habitat Post Mine Land Use Area of the Updated CCP. Please add a line or area depicting the projected pit lake as shown in Appendix A, Sheet 3, Proposed Mine Layout Post Reclamation.
26. Figure 6-2, Disturbance Areas at the EOY 2024 of the Updated CCP. A gold shaded area is shown outside of the Existing Little Rock Mine Permit Boundary located to the west of the proposed NRW Waste pile. This area should be shaded green to represent part of a New Unit at EOY 2024. Please revise this figure to correct this discrepancy.
27. Figure 4, Generalized Regional Topographic Map, showing the proximity of the Red Rock/Oak Grove Subdivision to the Little Rock Mine; Figure 5, General Minerology of Little Rock Mine; and Figure 7, Minerology Cross Sections of Little Rock Mine, were received by MMD after the submittal of the Application and Updated CCP and will supplement the Application. Cross sections A-A', B-B', and C-C' of Figure 7 show that sulfides will potentially be encountered and exposed during mining. What effect will the excavation and exposure of these sulfides have on the closeout plan?
28. Appendix A, Sheet 2, Proposed Mine Layout Pre-Reclamation (End of 2024), of the Updated CCP. Please add a line depicting the projected pit lake at EOY 2024 to this drawing.
29. Appendix A, Sheet 6, Deadman Diversion/East In-Pit Waste Closure Plan – Plan Views, of the Updated CCP. How will stormwater be directed off of the top surface of the East In-Pit Waste Pile?
30. Appendix A, Sheet 8, NRW Waste Closure Plan – Plan Views, of the Updated CCP. How will stormwater be directed off of the top surface of the NRW Waste Pile? The caption on the Pre-reclamation and Post-reclamation drawings list this pile as the “NWR Waste” instead of NRW Waste Pile.
31. Appendix A, Sheet 12, Revegetation Areas, of the Updated CCP shows the revegetated areas shaded in green. MMD notes that while the green shaded areas will be actively revegetated by Tyrone during reclamation, the North Stockpile and the West Canyon Stockpile are considered

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- mine disturbance that was reclaimed and are required to meet the revegetation standards of Permit No. GR007RE.
32. Appendix A, Sheet 13, Reclamation Haul Roads, of the Updated CCP, show, in part, the proposed reclamation haul routes for the Little Rock Mine. Please indicate the roads or other routes that will be maintained by Tyrone for post-closeout monitoring and maintenance.
 33. Appendix B, Facility Characteristics Forms, West In-pit Waste Stockpile, page B-1 of the Updated CCP indicates that 49.2 acres of this waste pile will be reclaimed, however, Section 2.1.2, Waste Rock Stockpiles, page 6 of the Updated CCP states that the West In-pit Stockpile is projected to cover approximately 42.9 acres. Similarly, the NRW Waste Stockpile reclaimed area is projected to be 51.4 acres in Appendix B, while it is listed as covering approximately 40.1 acres in Section 2.1.2. Other waste stockpiles have similar differences between the Reclaimed Area and the areas that Tyrone projects the stockpile will cover as shown on page 6 of the Updated CCP. While MMD is aware that there may be a difference in the area of these waste stockpiles prior to reclamation from the reclaimed area, it would be helpful to list the pre-reclamation area and the reclaimed area for each waste stockpile in the Facility Characteristic Forms of Appendix B.
 34. Appendix C, Reclamation Cost Basis Summary Report, Table 2, Earthwork Equipment Production Factors, of the Updated CCP, Value for Grade Factor – Tops is 1.0 (reference CPH 48: 19-55) for 1% to 5% slopes. The CPH 48:19-55 shows that the grade factor ranges from 0.9 to 1.0 for 1 to 5% slopes, that average to a value of 0.95. Please change the Grade Factor – Tops to 0.95 or provide an explanation why a 1.0 Grade factor was chosen.
 35. MMD received a letter, dated July 13, 2020 from the Gia Resources Information Project (“GRIP”) requesting that a public hearing be held by MMD on the Application and Updated CCP pursuant to 19.10.9.904.A NMAC (copy of GRIP letter attached). MMD responded to GRIP’s public hearing request in a letter, dated July 17, 2020, confirming that MMD will conduct a public hearing on Revision 20-1 to Permit No. GR007RE (copy of MMD letter attached). The date of the public hearing has not yet been set and MMD will advertise the public hearing pursuant to 19.10.9.904.B NMAC.

If you have any questions, please contact me at (505) 216-8945 or at David.Ohori@state.nm.us.

Sincerely,

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

Enclosures

cc: Mandy Lilla, Senior Engineer, Tyrone Mine
Holland Shepherd, MARF Program Manager
Keith Ehlert, Mining Environmental Compliance Section, NMED GWQB
Joseph Navarro, USDI BLM, Las Cruces District Office

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Beth Ihle, District Ranger, USDA FS, Gila National Forest
Allyson Siwik, Executive Director, Gila Resources Information Project
Mine File (GR007RE)

DRAFT



**NEW MEXICO
ENVIRONMENT DEPARTMENT**



Ground Water Quality Bureau

1190 Saint Francis Drive / PO Box 5469
Santa Fe, NM 87502-5469
Phone (505) 827-2900 Fax (505) 827-2965

www.env.nm.gov

Michelle Lujan Grisham
Governor

Howie C. Morales
Lieutenant Governor

James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

MEMORANDUM

Date: September 4, 2020

To: Holland Shepherd, Program Manager, Mining Act Reclamation Program

Through: Anne Maurer, Mining Environmental Compliance Section

From: Keith Ehlert, Mining Environmental Compliance Section
John Moeny, Surface Water Quality Bureau
Rhett Zyla, Air Quality Bureau

Subject: **NMED Comments, Revision 20-1, Little Rock Mine, Freeport-McMoRan Tyrone Operations, Grant County, New Mexico Mining Act Permit No. GR007RE**

The New Mexico Environment Department (NMED) received correspondence from the Mining and Minerals Division (MMD) on July 6, 2020 requesting NMED review and provide comments on the above-referenced MMD permitting action. The application is for revision of Mining Act Permit No. GR007RE. In accordance with Sections 19.10.5.505.B(3) and 19.10.5.506.E NMAC, NMED is providing comments within the 60-day period prescribed by the regulation. NMED has the following comments.

Background

The application for permit revision is for:

1. Expansion of the Little Rock Mine Permit and Design Limit Boundaries including expansion of the existing open pit, waste rock piles, haul roads, infrastructure, and miscellaneous facilities. The proposed revision also includes creation of new waste rock piles, modification of the Deadman Canyon Diversion, and removal of the Copper Leach Stockpile.
2. Update of the Little Rock Mine Closeout Plan as required by Revision 14-1 and Modification 18-1 to Mining Act Permit No. GR007RE.

Air Quality Bureau

The Air Quality Bureau comments are provided under separate letterhead.

Surface Water Quality Bureau

The Surface Water Quality Bureau comments are provided under separate letterhead.

Mining Environmental Compliance Section (MECS)

Freeport-McMoRan Tyrone Operations (Tyrone) has submitted an application for renewal and modification of the discharge permit (DP) for the Little Rock Mine (DP-1236). The application includes an Updated Closure/Closeout Plan (UCCP) dated June 11, 2020. Technical review of the application and UCCP is ongoing and NMED will provide comments directly to the applicant as part of the permit renewal process. NMED will coordinate with MMD regarding further review of the application and the UCCP and will copy MMD on any comments submitted to Tyrone pertaining to the application and UCCP.

NMED Summary Comment

NMED is withholding issuance of the environmental determination pending completion of the technical review of the application and UCCP for DP-1236 renewal and modification to ensure compliance with 20.6.2 and 20.6.7 NMAC.

If you have any questions, please contact Kurt Vollbrecht at (505) 827-1095.

cc: David Otori, Lead Staff, EMNRD-MMD
Kurt Vollbrecht, Program Manager, MECS
Shelly Lemon, Bureau Chief, NMED-SWQB
Elizabeth Bisbey-Kuehn, Bureau Chief, NMED-AQB



**NEW MEXICO
ENVIRONMENT DEPARTMENT**

525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico, 87505
Phone (505) 476-4300 Fax (505) 476-4375



Michelle Lujan Grisham
Governor

Howie C. Morales
Lt. Governor

James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

MEMORANDUM

DATE: July 31, 2020

TO: Kurt Vollbrecht, Program Manager, Mining Environmental Compliance Section

FROM: Rhett Zyla, Environmental Scientist & Specialist - Air Quality Bureau

RE: Request for Comment, Little Rock Mine, Revision 20-1, Freeport-McMoRan Tyrone Operations, New Mexico Mining Act Permit No. GR007RE

The New Mexico Air Quality Bureau (AQB) has completed its review of the above-mentioned mining project. Pursuant to the New Mexico Mining Act Rules, the AQB provides the following comments.

Air Quality Permitting History

Freeport-McMoran Tyrone, Inc. (Tyrone) holds an NSR Permit #PSD2448-M5 for this operation.

Details

Tyrone is requesting a modification to MMD permit #GR007RE, at its Little Rock Mine operations, approximately 4 miles southwest of Tyrone, New Mexico, in Grant County, Township 19S, Range 15W, Sections 8, 9, 16, 17, 20, and 21.

The revision application proposes to:

- 1) Expand the Little Rock Mine Permit and Design Limit boundaries including the expansion of the existing open pit, waste rock piles, haul road, infrastructure, and miscellaneous facilities; create new waste rock piles, modify the Deadman Canyon Diversion, and remove the reclaimed Copper Leach Stockpile.
- 2) Update the Little Rock Mine Closeout Plan as required by Revision 14-1 and Modification 18-1 to Permit No. GR007RE.

The proposed revision will facilitate the expansion of the Little Rock Mine, extending the same land uses and activities that have previously been approved. Mineable ore from Little Rock will continue to be transferred to the adjacent Tyrone Mine facility for copper extraction.

The current approved design limit incorporates approximately 468 acres; the proposed permit revision will increase the design limit to 1,025 acres.

Air Quality Requirements

The New Mexico Mining Act of 1993 states that “Nothing in the New Mexico Mining Act shall supersede current or future requirements and standards of any other applicable federal or state law.” Thus, the applicant is expected to comply with all requirements of federal and state laws pertaining to air quality. Current requirements which may be applicable in this mining project include, but are not limited to the following:

Paragraph (1) of Subsection A of 20.2.72.200 NMAC, *Application for Construction, Modification, NSPS, and NESHAP - Permits and Revisions*, states that air quality permits must be obtained by:

“Any person constructing a stationary source which has a potential emission rate greater than 10 pounds per hour or 25 tons per year of any regulated air contaminant for which there is a National or New Mexico Ambient Air Quality Standard. If the specified threshold in this subsection is exceeded for any one regulated air contaminant, all regulated air contaminants with National or New Mexico Ambient Air Quality Standards emitted are subject to permit review.”

Further, Paragraph (3) of this subsection states that air quality permits must be obtained by:

“Any person constructing or modifying any source or installing any equipment which is subject to 20.2.77 NMAC, *New Source Performance Standards*, 20.2.78 NMAC, *Emission Standards for Hazardous Air Pollutants*, or any other New Mexico Air Quality Control Regulation which contains emission limitations for any regulated air contaminant.”

Also, Paragraph (1) of Subsection A of 20.2.73.200 NMAC, *Notice of Intent*, states that:

“Any owner or operator intending to construct a new stationary source which has a potential emission rate greater than 10 tons per year of any regulated air contaminant or 1 ton per year of lead shall file a notice of intent with the department.”

The above is not intended to be an exhaustive list of all requirements that could apply. The applicant should be aware that this evaluation does not supersede the requirements of any current federal or state air quality requirement.

Fugitive Dust

Air emissions from this project should be evaluated to determine if an air quality permit is required pursuant to 20.2.72.200.A NMAC (e.g. 10 lb/hour or 25 TPY). Fugitive dust is a common problem at mining sites and this project will temporarily impact air quality as a result

of these emissions. However, with the appropriate dust control measures in place, the increased levels should be minimal. Disturbed surface areas, within and adjacent to the project area, should be reclaimed to avoid long-term problems with erosion and fugitive dust. EPA's *Compilation of Air Pollutant Emission Factors, AP-42, "Miscellaneous Sources"* lists a variety of control strategies that can be included in a comprehensive facility dust control plan. A few possible control strategies are listed below:

Unpaved haul roads and traffic areas: paving of permanent and semi-permanent roads, application of surfactant, watering, and traffic controls, such as speed limits and traffic volume restrictions.

Paved roads: covering of loads in trucks to eliminate truck spillage, paving of access areas to sites, vacuum sweeping, water flushing, and broom sweeping and flushing.

Material handling: wind speed reduction and wet suppression, including watering and application of surfactants (wet suppression should not confound track out problems).

Bulldozing: wet suppression of materials to "optimum moisture" for compaction.

Scraping: wet suppression of scraper travel routes.

Storage piles: enclosure or covering of piles, application of surfactants.

Miscellaneous fugitive dust sources: watering, application of surfactants or reduction of surface wind speed with windbreaks or source enclosures.

Recommendation

An air quality permit modification may be required for the proposed increase in land acreage and associated modifications. More permitting information and contacts can be found on the [AQB Permitting webpage](#).

The applicant is expected to comply with all requirements of federal and state laws pertaining to air quality. This written evaluation does not supersede the applicability of any forthcoming state or federal regulations.

If you have any questions, please contact me at (505) 476-4304.



Michelle Lujan Grisham
Governor

Howie C. Morales
Lt. Governor

NEW MEXICO ENVIRONMENT DEPARTMENT

Harold Runnels Building
1190 Saint Francis Drive, PO Box 5469

Santa Fe, NM 87502-5469

Telephone (505) 827-2855

www.env.nm.gov



James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

MEMORANDUM

Date: September 2, 2020

To: Anne Mauer, Mining Act Team Leader (Acting)
Mining Environmental Compliance Section
Ground Water Quality Bureau (GWQB)

From: John Moeny
Watershed Protection Section
Surface Water Quality Bureau (SWQB)

Subject: **Request for Comment, Little Rock Mine, Revision 20-1, Freeport-McMoRan Tyrone Operations, New Mexico Mining Act Permit No. GR007RE.**

On July 6, 2020, NMED received a request for comments regarding a modification to an existing, regular mine permit located in Grant County.

Summary of Proposed Action

Freeport-McMoRan Tyrone Operations ("Applicant") seeks to modify their mine permit to expand both the existing Little Rock Mine Permit boundary (by 348 acres) and the current Mining Area Design Limit (by 558 acres). Land ownership under the proposed expansion will continue to include a mix of private and public lands. The updated closure-closeout plan (CCP) describes post-mining conditions including water quality of the pit lake and anticipated monitoring for a period of 30 years following mine closure.

Relevant State and Federal Water Quality Regulations

Designated uses and the criteria protecting for those uses under 20.6.4.98 NMAC apply to all unclassified non-perennial waters of the state not already specifically identified under 20.6.4.97 NMAC. This includes the drainages of California Gulch and Deadmans Canyon.

The pit lake at closure will be considered a perennial water of the state and subject to water quality standards that are protective of the designated uses for unclassified perennial waters. These include warmwater aquatic life, primary contact, livestock watering and wildlife habitat. Numeric standards for applicable designated uses can be found in [20.6.4.900 NMAC](#). The CCP does not adequately describe anticipated **surface** water quality, despite modeling for water quality standards described in 20.6.2.3103 NMAC. Analyzing for surface water quality at closure and for the 30-year post closure interval will be required prior to renewal of DP-1236 from the NMED.

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Federal Clean Water Act (CWA). If you have questions about activities within watercourses or wetlands that may require coverage under a CWA Section 404 permit, particularly under the new **Navigable Waters Protection rule**, then more information is available on-line from the USACE, Albuquerque District, Regulatory Division at: <http://www.spa.usace.army.mil/Missions/Regulatory-Program-and-Permits/>.

The U.S. Environmental Protection Agency (USEPA) administers the National Pollutant Discharge Elimination System (NPDES) program under Section 402 of the Federal Clean Water Act (CWA) in the State of New Mexico. The applicant lists NPDES Stormwater coverage under permit tracking number “NMR053073”. This permit is administratively continued despite the MSGP having expired in early 2020. The applicant will need to obtain coverage under the new 2020 MSGP once it is finalized and issued by the EPA. At the time of this comment, NMED expects new MSGPs to be issued by the EPA in November 2020.

Information regarding NPDES Stormwater Coverage is available at <https://www.epa.gov/npdes/npdes-stormwater-program>. If you have questions related to pollutant discharges to surface water or National Pollutant Discharge Elimination (NPDES) permits in the State of New Mexico, then contact Sarah Holcomb, Program Manager, Point Source Regulation Section, NMED SWQB at 505-827-2798.

Recommendations to protect Surface Water Quality

The SWQB will coordinate with the Ground Water Quality Bureau during the review for the renewal and modification of DP-1236 to ensure that mine activities are *“expected to achieve compliance with all applicable air, water quality, and other environmental standards”* as required under the Mining Act.



DIRECTOR AND SECRETARY
TO THE COMMISSION
Michael B. Sloane

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

One Wildlife Way, Santa Fe, NM 87507
Post Office Box 25112, Santa Fe, NM 87504
Tel: (505) 476-8000 | Fax: (505) 476-8123
For information call: (888) 248-6866

www.wildlife.state.nm.us

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9 September 2020

David Otori, Permit Lead
Permit Lead, Mining Act Reclamation Program
Mining and Minerals Division (MMD)
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Revision 20-1 Expansion of Little Rock Mine Permit and Design Limit Boundaries and Updated Closeout Plan, Freeport-McMoRan Tyrone Operations, Permit No. GR007RE; NMDGF No. NMERT-640.

Dear Mr. Otori,

In response to your letter dated 6 July 2020, the New Mexico Department of Game and Fish (Department) has reviewed the above referenced project. Freeport-McMoRan Tyrone Operations (FMI) is requesting a revision to Permit No. GR007RE. The revision proposes to expand the Little Rock Mine Permit and Design Limit boundaries which includes the expansion of the existing open pit, and an updated mine Closeout Plan.

In Section 6.1 of the Updated Closure/Closeout Plan (CCP) FMI states, the pit lake that will form after reclamation is expected to benefit local wildlife. The Department believes that the final water quality of the pit lake cannot be predicted with any certainty, but conditions at other post mining pit lakes in the U.S. suggest that water quality would likely become hazardous to wildlife. The Department recommends that wildlife should not be encouraged or allowed to access the pit lake area. The perimeter fencing around the pit lake should be designed to exclude wildlife, having a minimum height of eight feet, and be constructed with woven wire material. The bottom of the fence should be buried 6-12 inches to prevent animals from digging underneath, and the bottom two feet above surface level should be wrapped in a durable corrosion-resistant material with a mesh size of 3/8th inch to exclude small mammals and other terrestrial wildlife. FMI also states that power poles will be left in place to provide perching spots, the Department disagrees with leaving the power poles in place and recommends that they are removed when no longer needed.

It is the Department's understanding that the Little Rock Mine will be using the same reference area that was originally established for the Tyrone Mine, which is located in an alluvial bottomland area. The Department believes that the current reference area may not adequately represent the undisturbed habitat that is immediately adjacent to the higher elevation Little Rock Mine. Since a mine site inspection was not conducted due to Covid-19, the Department cannot fully evaluate the possible need for a separate reference area that would be more appropriate to

evaluate the revegetation success for the Little Rock Mine, and recommends that MMD may need to consider establishing a separate reference area for Little Rock.

The Department concurs with the reclamation seed mix, but recommends that FMI include at least two cool season grasses, even though they were dropped from the seed mix because past experience seemed to indicate poor success rates. Any alternate seeds used to substitute for primary plant species that are unavailable at the time of reclamation should also be native. When possible, the Department recommends using seeds that are sourced from the same region and habitat type as the reclamation site.

Thank you for the opportunity to review and comment on the proposed mine permit revision and updated Closeout Plan. If you have any questions, please contact Ron Kellermueller, Mining and Energy Habitat Specialist at (505) 476-8159 or ronald.kellermueller@state.nm.us.

Sincerely,



Matt Wunder, Ph.D.

Chief, Ecological and Environmental Planning Division

cc: USFWS NMES Field Office



Michelle Lujan
Grisham
Governor

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
SANTA FE, NEW MEXICO 87501
PHONE (505) 827-6320 FAX (505) 827-6338

July 7, 2020

David Ohori
Supervisor, Senior Reclamation Specialist
Mining and Minerals Division
1220 South Saint Francis Drive
Santa Fe, NM 87505

Re: HPD Log# 113330, Request for Comments on Revision 20-1 to Little Rock Mine, Permit No. GR007RE,
Freeport-McMoRan Tyrone Operations

Dear Mr. Ohori:

I am writing in response to your request for comment on the above referenced permit modification received at this office July 7, 2020

Pursuant to 19.10.5.505 NMAC, Permit Modifications and Revisions, the Director shall determine whether a permit modification would have an adverse impact on cultural resources listed on either the National Register of Historic Places or the State Register of Cultural Properties or be located in a known cemetery or other burial ground.

According to our files, there are no cultural resources listed on either the National Register of Historic Places or the State Register of Cultural Properties in the permit area. There are also no known cemeteries or other burial grounds. Based on this information, this permit will have no adverse impacts to cultural resources listed on the National or State Registers.

Although there are no cultural resources listed on either the National Register of Historic Places or the State Register of Cultural Properties, portions of the expanded permit area have never been archeologically surveyed. Therefore, this office recommends that a cultural resources survey be conducted on any undisturbed portions of mine property that have not been previously surveyed and where proposed new ground disturbance will occur for this permit.

This survey should be performed by a qualified professional to determine if any historic or archaeological properties are present and if so, to provide documentation of those resources to our office. This information can then be used to evaluate the National Register of Historic Places eligibility of any resources identified during the survey and determine project effects on those resources. A list of state permitted archaeologists and archaeological firms are available from this office upon request or can be downloaded from our web site at:

<http://www.nmhistoricpreservation.org/documents/consultants.html>

Finally, the permit application indicates that land ownership in the proposed expanded permit area includes the United States Forest Service (USFS) and the United States Bureau of Land Management (BLM). Because of this, both the USFS and the BLM should be contacted regarding requirements for identification of cultural resources in areas that will be affected by proposed mining activities.

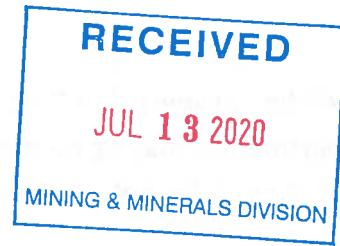
If you have any questions concerning these comments, please do not hesitate to contact me by phone at (505)-452-6115 or e-mail me at richard.reycraft@state.nm.us

Sincerely,

Richard Reycraft

Richard. Reycraft
Staff Archaeologist

Jerry Schoeppner, Director, Mining and Mineral Division
1220 South St. Francis Drive
Santa Fe, NM 87505



7/8/20

RE: Permit Revision to Little Rock Mine # GR007RE

Cc: David Ogori

Supervisor, Senior Reclamation Specialist

Thank you for allowing public comment on this planned Little Rock permit revision.

It was brought to my attention a few years ago, that the revegetation list for the Little Rock mine closure plan, included several species that are not native to the area of Mangas Valley and the Burro Mountains in which the Little Rock/Tyrone mine sits. Some of the species listed are not native to the State of New Mexico.

So I am bringing it to your attention now within the public comment period. I am currently having the Native Plant Society of Silver City and a Botany Professor at WNMU look at the vegetation list provided in the permit revision for Little Rock. I have included it for you to use in the permit process. Pg31 Native to the state of New Mexico does not mean Native to the area of the Little Rock mine. I intend to contact the Native Plant Chapters around the state so they might be included on the permitting process and update their revegetation lists for local mine closures as well. I am sure they would be honored to help out with the correct species.

By using seeds and plants that are native to the area the revegetation propagation rate will increase. This makes the habitat better for the wildlife that will eventually be in the area. Since no topsoil will be placed on the closure area only fine grain dirt it makes more sense to use the native plants and seeds local to the area. If I read it correctly "4 inches of fine grain material over 10% of the surface". *Fine grain material is not topsoil* 3 warm season grasses+2 shrubs+1 non weedy forb is not saying much for a successful revegetation rate.

A cut and paste method of a seed list is not ideal for successful restoration work. The New Mexico State Native Plant Chapters will be a good source for you to use in the future. Given that substrate, elevation, precipitation, slope face, etc. will vary at each location, the seeds and plants used should be locally collected. Non Native plants should not be introduced.

The Tyrone Mine property has Tree of Heaven and Tamarisk growing on it, yet the Land and Water Department is making no move to remove them. This does not bode well for reclamation and revegetation. Why not use topsoil instead of pre-Cambrian dirt which is not soil?

Another comment, I live close to the Little Rock mine and have hiked along Deadman's Canyon in the section from Mudd Spring to Tyrone Mountain Ridge Road. The Continental Divide Trail for years had hikers down this canyon to the Ridge Road and hiking north on Hwy 90 into Silver City. Mudd Spring flows into Deadmans Canyon and into Mangas Creek wash. Mudd Spring provides one of the only sources of water for the CDT hikers in this area. This is a desert, water is important! Ground water is being pulled into the mine pit from 2-3 miles surrounding it. Storm water adds to this amount of water. If the Little Rock mine is using all this water it is affecting the ground water and surface water in the watershed that goes to Mangas Creek wash and into the Gila River Watershed.

When the mine dam broke years ago, where did the water flow? Where did the mine have to buy people out of their property? All along Mangas Creek wash Valley.

The mine said there is a fault that separates the mine from the ground water. But the fault is being dug into and lowered as part of the Little Rock mine expansion. They said in future years the flow will go through the pit in 1 side and out the other and pumped into Tyrone pit. I just have a hard time believing everything they say.

The mine said Burro Mountain Homestead's (they sit above the mine) water table could drop ½ to 1 foot. It has not done so yet but it could. The mine met with another property owner they said proceeding with the Little Rock mine pit might impact his water well. The mine said if that happened they would pay to have water hauled to him. His water table fell, the mine person retired and the property owner is out of luck.

The Oak Grove north community was told not to worry about ground water contamination from the mine because a fault separates the two. Now we all know faults have fissures and cracks and they move. So I am not comfortable with these mountains of leach piles and SX plant and pond chemicals, believing there is no seepage into the ground water.

Why is it ok to bury old pipes and tubing?

Some ponds are lined. Where is the old unused pond lining disposed? Seems like there would be some chemical residue on them and they are hazardous waste.

Why is the Gila Cliff Dwelling weather station being used for annual precipitation? It is miles away from the mine and at a different elevation in a forested area and gets more precipitation than the Burro Mountains.

It seems that if 2.7gpm in 7/2013 then 178gpm in 8/2013 was pumped that is a lot of groundwater being taken out of the watershed. This will have a detrimental effect on riparian plant species and cause a die off and is taking water away from all wildlife. There should be an updated plant and animal species list and not use the one from 1993- 1997. The Gila National Forest might have a more current listing of plants and animals as they are currently undergoing their Forest Plan update.

Question: pg. 16 3.1 East In Pit, NRW waste, CLW waste = conditionally exempt of engineering design, construction & operational requirements of Copper mine and Water Quality Act. What does that mean?

“Water outflow from the pit lake included evaporation & flow to adjacent ground water in some areas.” I thought the mine said ground water would not be affected or contaminated?!

Will the pit lake chemical residue kill birds? This is along the bird migration route. Will the salinity and chemicals concentration be higher with evaporation as time passes?

26 acres disturbed for haul road – but how many acres are being disturbed for access ramps?

How is Air Quality to be monitored? This expansion is bringing mining activity closer to our residential community. There is already plenty of dust in the air.

Different topic; the 5000' borehole to be completed by 11/15/2020 south of Tyrone listed to be reclaimed within 2 years. Will the same revegetation principles be applied on that acreage? Will the correct native seeds and plants be used along with topsoil not pre Cambrian dirt?

MMD reviewed PAP found it technically incomplete. There is ground water at 160-170'.

Oil and grease, secondary containment system and construction materials properly disposed of as hazardous waste? Who oversees all of this?

I look forward to hearing some answers to my questions. Thank you for allowing public comment. I do feel there are some people doing their jobs and taking responsibility and holding companies accountable.

Thank you for your time and interest in this matter.

Carol A. Martin

56 T – T Dr. Oak Grove Subdivision

Silver City, NM 88061

June 2020 20136957

Table 6-1: Proposed Interim Seed Mix and Rates for the Little Rock Mine Reclamation Sites

Species Scientific Name	Common Name
Primary Seed Mix	
Cercocarpus montanus BREUIFLORUS (native species)	Mountain mahogany Shrub
Alternate Seed Mix	
Andropogon hallii NOT NATIVE	Sand bluestem Grass
Andropogon saccharoides NOT NATIVE	Silver bluestem Grass
Bothriochloa ischaemum NOT NATIVE in the US	Yellow bluestem Grass
Buchloe dactyloides NOT NATIVE in GRANT COUNTY	Buffalograss Grass
Heteropogon contortus	Tanglehead Grass
Setaria vulpisceta – NOT NATIVE in SOUTHWEST NM	Plains bristlegrass Grass
Setaria leucopilis NATIVE	
Coreopsis lanceolata NOT NATIVE	Lanceleaf tickseed
Coreopsis tinctoria NOT NATIVE	Plains tickseed
Gaillardia aristata Native to Northern NM, NOT GRANT CO	Blanket flower
Gilia tricolor NOT NATIVE	Bird's eyes
Ipomopsis ambigua -(not native)-aggregatae–NATIVE	Scarlet gilia
Lupinus arizonicus (not as common) Lupinus argenterus (more common in SW NM)	Lupine
Lupinus perennis (Does NOT Occur in NM)	Perennial lupine
Machaeranthera bigelovii is now Dieteria	Bigelow's tansyaster
Oenothera macrocarpa NOT NATIVE in SW NM	Missouri evening primrose
Penstemon eatonii NOT NATIVE in SW NM	Firecracker Penstemon
Phacelia campanularia NOT NATIVE	Bluebells
Rudbeckia hirta NOT NATIVE in GRANT CO	Blackeyed susan
Senecio longilobus (Not Native) flaccitus NATIVE	Silver groundsel
Senna covesii NOT NATIVE in GRANT CO	Desert senna
Solidago Canadensis NOT NATIVE	Canada goldenrod
Thelesperma filifolium -(Not Native) megapotaricus (NATIVE in GRANT CO)	Greenthread
Yucca glauca NOT NATIVE in Grant CO	Spanish bayonet