

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, Acting Director
Mining and Minerals Division



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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

February 28, 2023

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

**RE: Transmittal of Documents: Revision 20-1, Permit No. GR007RE, Little Rock Mine,
Grant County, New Mexico**

Dear Mr. Shelley:

The New Mexico Mining and Minerals Division (“MMD”) has approved Revision 20-1 to Permit No. GR007RE, for the Little Rock Mine. A copy of the permit document is enclosed with this letter. MMD will retain the original of this document on file.

If you have any questions in this matter, please feel free to contact me at (505) 216-8399 or carmen.rose@emnrn.dnm.gov.

Sincerely,

Carmen Rose, Permit Lead
Mining Act Reclamation Program (“MARP”)
Mining and Minerals Division

Enclosure

cc: Holland Shepherd, Program Manager, MARP
Raechel Roberts, Environmental Scientist II, Tyrone Mine
Brad Reid, Mining Environmental Compliance Section (MECS), NMED GWQB
Anne Maurer, MECS, NMED GWQB
Joseph Navarro, U.S. BLM, Las Cruces District Office
Allyson Siwik, Executive Director, Gila Resources Information Project

Mining and Minerals Division
1220 South St. Francis Drive * Santa Fe, New Mexico 87505
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**PERMIT REVISION 20-1 TO PERMIT NO. GR007RE
LITTLE ROCK MINE
EXISTING MINING OPERATION**

**MINING AND MINERALS DIVISION
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT**

This Permit Revision 20-1 (“Permit Revision”) to Permit No. GR007RE is issued by the Director of the Mining and Minerals Division (“MMD”) of the New Mexico Energy, Minerals and Natural Resources Department to:

Freeport-McMoRan Tyrone Inc. (“Tyrone”)
Whose correct address is: P.O. Box 571
Tyrone, NM 88065

(“Permittee”) for the Little Rock Mine, located in Grant County, New Mexico.

This Permit Revision:

Approves (i) an expansion of the Little Rock Mine Permit Area from approximately 681 acres to 983 acres; (ii) expansion of the Mining Area Design Limit from approximately 468 acres to 688 acres, including the new NRW Waste stockpile, new East In-Pit Waste stockpile, changes to the existing North In-Pit Waste stockpile and the existing West In-Pit Waste stockpile, and the new Southern, Northern, and Western Haul Roads as shown in Figure 1-3 of the 20-1 PRP (hereafter defined); and (iii) the updated closeout plan and financial assurance for the Little Rock Mine. The approved cost estimate for the updated closeout plan is \$8,895,457.00. The financial assurance for the Little Rock Mine updated closeout plan is in the form of Surety Bond No. 022055762 in the amount of \$8,895,457.00 issued by the Liberty Mutual Insurance Company.

In order to accomplish the approval contemplated by this Revision 20-1, the following subparagraphs are added to Permit No. GR007RE:

Definitions and Abbreviations

Whenever any terms defined in the Rules are used in this Permit, including any documents incorporated herein by reference, those definitions shall apply. In addition, whenever the terms listed below are used in this Permit, including any documents incorporated herein by reference, the following definitions shall apply:

BLM U.S. Bureau of Land Management

CQA Construction Quality Assurance

Interbench Slope The outslope ground surface between terrace benches.

| | |
|---------------|---|
| Mine Area | All of the Little Rock Mine facilities which include, but is not limited to, the Open Pit Area; the North In-Pit and West In-Pit Waste stockpiles; the historical North and West Canyon Waste stockpiles; the future East In-Pit and NRW waste stockpiles; the Reclaimed Copper Leach Stockpile and P-Plant Area; the Little Rock Haul Road, the Northern Haul Road and future Southern Haul Road; the existing Spanning Arch Culvert and the future Deadman Canyon Diversion; the Seepage Collection Pipeline; the Temporary Lined Pond; the future Water Tank facilities; the Substation; the Main Sump at the bottom of the open pit and the Dewatering Pipeline to the Tyrone Mine lined 1X1 pond (Little Rock Sump 1X1 pipeline). See <i>Figure 1-2: Existing Little Rock Mine Facilities and Permit Boundaries Areas</i> ; and <i>Figure 2-1 EOY 2024 Little Rock Mine Facilities and Permit Boundaries</i> in the Updated Closure/Closeout Plan for the Little Rock Mine, dated June 11, 2020, revised March 31, 2022 and June 29, 2022. |
| NMAC | New Mexico Administrative Code |
| NMED | New Mexico Environment Department |
| NMMA | New Mexico Mining Act |
| NMSA | New Mexico Statutes Annotated |
| Open Pit Area | The Open Pit Boundary as shown in <i>Figure 1-3: Existing Little Rock Mine Facilities and Permit Boundaries Areas</i> ; and <i>Figure 2-1 EOY 2024 Little Rock Mine Facilities and Permit Boundaries</i> in the Updated Closure/Closeout Plan for the Little Rock Mine, dated June 11, 2020, revised March 31, 2022 and June 29, 2022. The area located within the Open Pit Boundary is the Open Pit Area. |
| PMLU | Post-Mining Land Use. Defined in §19.10.1.7.P(5) NMAC. |
| Reservoirs | All surface impoundments used for impacted or non-impacted storm water control, water management, including the Temporary Lined Pond and the existing Main Sump. See <i>Figure 1-2: Existing Little Rock Mine Facilities and Permit Boundaries Areas</i> ; and <i>Figure 2-1 EOY 2024 Little Rock Mine Facilities and Permit Boundaries</i> in the Updated Closure/Closeout Plan for the Little Rock Mine, dated June 11, 2020, revised March 31, 2022 and June 29, 2022. |
| RCM | Reclamation Cover Material for the Little Rock Mine consisting of overburden materials such as Precambrian granite being evaluated for suitability as RCM depending on the results of the USNR test plot study. MMD is processing an application for Modification 22-1 for termination of the USNR test plot study and approval of the Little Rock Mine Precambrian granite as RCM for the Little Rock Mine (and for the Tyrone |

Mine under Modification 22-1 to Permit No. GR010RE).

SSE Self-Sustaining Ecosystem. Defined in §19.10.1.7.S(2) NMAC.

Stockpile All waste rock piles associated with mining disturbances at the Little Rock Mine. New leach ore stockpiles are not approved for the Little Rock Mine. Waste rock piles include non-leach material from the Open Pit Area. These include the North In-Pit Waste and West In-Pit Waste stockpiles; the historical North and West Canyon waste stockpiles; and the future East In-Pit Waste and NRW Waste stockpiles. See *Figure 1-2: Existing Little Rock Mine Facilities and Permit Boundaries Areas*; and *Figure 2-1 EOY 2024 Little Rock Mine Facilities and Permit Boundaries* in the Updated Closure/Closeout Plan for the Little Rock Mine, dated June 11, 2020, revised March 31, 2022 and June 29, 2022.

USDA United States Department of Agriculture.

Section 1 (20-1). **STATUTES AND REGULATIONS**

- A. This Permit Revision is issued pursuant to the New Mexico Mining Act, NMSA 1978, §69-36-1, et seq. (1993, as amended through 2020) (“the Act”) and New Mexico Mining Act Rules, Title 19, Chapter 10 of the NMAC (“the Rules”).
- B. This Permit is subject to the Act, the Rules, and any other applicable regulations, which are now or hereafter in force under the Act; and all such regulations are made a part of this Permit by this reference.

Section 1a (20-1). **PERMIT APPLICATION PACKAGE**

The Permit Revision Package for Revision 20-1 (“20-1 PRP”) consists of:

- A. E-mail from Tyrone, dated April 24, 2020, with information regarding the process of determining the highest reclamation cost year for the Little Rock Mine for the 5-year period from 2019 through 2024.
- B. \$6,000 Application Fee for Revision 20-1 for the expansion and Updated Closure/Closeout Plan for the Little Rock Mine dated May 15, 2020 received by MMD.
- C. A written request from the Permittee, dated June 11, 2020, (i) for an expansion of the Little Rock Mine Permit Area to 1,025 acres, (ii) expansion of Mining Area Design Limit to 1,025 acres including the new NRW Waste stockpile, new East In-Pit Waste stockpile, and changes to the existing North In-Pit Waste stockpile and the existing West In-Pit Waste stockpile, the new Southern, Northern, and Western Haul Roads, and (iii) an Updated Closure/Closeout Plan (“Revised Updated CCP”), dated June 11, 2020, for the Little Rock Mine.

- D. Letter from Tyrone, dated June 24, 2020, with proof of public notice for the Little Rock Mine expansion and updated closeout plan.
- E. E-mail from Tyrone, dated February 5, 2021, with the *Little Rock Mine Highest Reclamation Cost Year Technical Memorandum* by Telesto Solutions, Inc., dated January 29, 2021.
- F. Letter from Tyrone, dated April 19, 2021, titled, *Little Rock Update to Closure/Closeout Plan*”, with responses to the comments of the New Mexico Environment Department (“NMED”) and the New Mexico Department of Game and Fish (“NMDG&F”).
- G. Letter from Tyrone, dated April 26, 2021, titled, *Little Rock Update to Closure/Closeout Plan*”, with responses to MMD comments on the operational status of the Little Rock Mine.
- H. Letter from Tyrone, dated January 18, 2022, titled, “Little Rock Update to Closure/Closeout Plan and Permit Application”, with responses to MMD comments including a change to the Permit Area and Design Limit Map for the Little Rock Mine.
- I. Email from Tyrone, dated September 9, 2021, with a proposed adjusted drawing of the Little Rock Mine Design Limit and a summary of comments and responses regarding the adjusted Design Limit.
- J. Email from Tyrone, dated September 9, 2021, with a proposed adjusted drawing of the Little Rock Mine Design Limit with previously discussed Design Limit changes, responding to a MMD request.
- K. Email from Tyrone, dated September 12, 2021, with a proposed adjusted drawing of the Little Rock Mine Design Limit redrawn with enhancements.
- L. Email from Tyrone, dated February 15, 2022, updating the submittal date of an amended reclamation cost estimate.
- M. Letter from Tyrone, dated March 16, 2022, with the Little Rock Mine Operational Erosion Control Plan.
- N. Letter from Tyrone, dated March 31, 2022, including a scope of work for changes to the updated closeout plan reclamation cost estimate for additional fine grained Precambrian granite cover material for the reclamation of the West In-Pit Waste stockpile, and an Updated Closure/Closeout Plan for the Little Rock Mine, revised March 31, 2022 (“Revised Updated CCP”).
- O. Letter from Tyrone dated June 30, 2022, with responses to additional NMED comments on the Updated Closure/Closeout Plan Cost Estimate including replacement pages for the Updated CCP, dated June 29, 2022.

- P. Letter from Tyrone, dated November 30, 2022, titled, *Freeport-McMoRan Tyrone Inc.; Little Rock Mine Mining Act Permit No. GR007RE and Discharge Permit 1236 (DP-1236) Closure Closeout Plan Financial Assurance Proposal*.
- Q. Email from Tyrone, dated December 16 2022, with the BLM Decision Record for the Little Rock 2020 Mine Plan of Operations (“MPO”) and the NEPA Environmental Assessment FONSI for the Little Rock Mine 2020 MPO Amendment Project.
- R. Email from Tyrone, dated December 20, 2022, with a draft Rider for Surety Bond No. 022055762 issued by the Liberty Mutual Insurance Company increasing it from \$4,158,815.00 to \$8,895,457.00.
- S. Email from Tyrone, dated December 21, 2022, with a revised draft Rider for Surety Bond No. 022055762 issued by the Liberty Mutual Insurance Company increasing it from \$4,158,815.00 to \$8,895,457.00, and including NMED and the BLM as Obligees with MMD.

Section 2 (20-1).

PERMIT AREA AND DESIGN LIMITS

- A. The Little Rock Mine permit area encompasses all or portions of Sections 16, 17 and 20, T19S, R15W in Grant County, New Mexico, New Mexico Prime Meridian (“NMPPM”). The approved permit area is approximately 983 acres and is delineated in Figure 1-3 of the Revised Updated CCP. The approved permit area is on surface lands owned by Tyrone, the BLM , and the U.S.D.A. Forest Service (“USFS”). The Permittee is authorized to conduct mining and reclamation operations only within the approved permit area, as set forth in the 20-1 PRP.
- B. The permit area and design limits of the existing mine units prior to approval of Revision 20-1 are delineated in Figure 1-2, of the Revised Updated CCP. The existing facilities within the mine unit are:
 - 1. Open Pit Area located within the Mining Area Design Limit (approved in Revision 14-1);
 - 2. West In-Pit Waste Stockpile;
 - 3. North In-Pit Waste Stockpile;
 - 4. Historical West Canyon Stockpile;
 - 5. Historical North Stockpile;
 - 6. Reclaimed Copper Leach Stockpile and P-Plant Area including the Seepage Collection Pipeline;
 - 7. Sumps and associated water tanks;
 - 8. Temporary Lined Pond;
 - 9. Spanning Arch Culvert;
 - 10. Other Utilities;
 - 11. Existing Little Rock Haul Roads;
 - 12. Western Haul Road (Rev 14-1);
 - 13. Northern Haul Road (approved in Modification 20-1), and

14. Dewatering Pipeline to the Tyrone Mine 1X1 Lined Pond.

The permit area and design limits of the mine unit approved in Revision 20-1 are delineated in Figure 1-3, 2-1, 6-1, and 6-2 as revised, in the Updated Closure/Closeout Plan for the Little Rock Mine, dated June 11, 2020, revised June 29, 2022.

C. The mine facilities approved in Revision 20-1 are:

1. Facilities approved in Permit GR007RE Rev 14-1
2. Open Pit Area located within the Mining Area Design Limit;
3. West In-Pit Waste Stockpile;
4. North In-Pit Waste Stockpile;
5. East In-Pit Waste Stockpile;
6. NRW Waste Stockpile;
7. Historical West Canyon Stockpile;
8. Historical North Stockpile;
9. Reclaimed Copper Leach Stockpile and P-Plant Area including the Seepage Collection Pipeline;
10. Pit Sump;
11. Temporary Lined Pond;
12. Deadman Canyon Diversion;
13. Existing Little Rock Haul Roads;
14. Northern Haul Road (approved in Modification 20-1),
15. Southern Haul Road;
16. Water Tank Facilities;
17. Other Utilities;
18. Substation; and
19. Dewatering Pipeline to the Tyrone Mine 1X1 Lined Pond.

Section 3 (20-1).

FINDINGS OF FACT

- A. The 20-1 PRP and the Revised Updated CCP are complete and contain all the information required, with the conditions outlined in this revision document, as required by §19.10.5.503.F(1), §19.10.5.506.B(1-4), §19.10.5.506.J(1-6) NMAC.
- B. The Permittee has paid the Permit Revision fee of \$6,000.00 as required by 19.10.2.201.K.5 NMAC.
- C. The Permittee has provided written information stating the name and official business address of the applicant and its agent for service of process, as required by §19.10.5.503.F(2) NMAC.
- D. The Permittee has provided the required signature and certification, as required by §19.10.5.503.F(3) NMAC.
- E. The Permittee is in compliance with §19.10.2 NMAC regarding fees.

- F. The application for Permit Revision has been reviewed in accordance with 19.10.5.505 NMAC and has been determined to be a revision.
- G. Public notice for the permit application was provided as required by 19.10.9 NMAC and 19.10.5.503.F.5 NMAC. Public notice for incorporating the updated closeout plan was provided as required by 19.10.5.506.J.1 NMAC. Public notice for the administratively complete determination by MMD was provided as required by 19.10.5.506.F NMAC.
- H. As required by §19.10.5.505.B(2) NMAC, the application for permit revision was accompanied by sufficient information for the Director to determine whether any of the factors listed in §19.10.5.505 NMAC are present.
- I. As required by §19.10.5.506.D NMAC, the Director determined that the application was administratively complete and notified Tyrone in writing on July 6, 2020.
- J. A public hearing was timely requested by the Gila Resources Information Project (“GRIP”) by letter to MMD, dated July 13, 2020; and others. A public hearing was held in accordance with 19.10.9.905 NMAC on June 3, 2021 in Silver City, New Mexico. The public hearing record was open until the close of business on June 17, 2021. The public hearing record has been maintained by MMD in accordance with 19.10.9.906 NMAC.
- K. As required by §19.5.505.B.3 NMAC The Director has consulted with the applicable state and federal agencies including State Forestry Division, New Mexico Department of Game and Fish, State Historic Preservation Division, NMED, New Mexico Office of the State Engineer, and the BLM.
- L. MMD provided the 20-1 PRP to the following tribal entities and requested review and comment: the Hopi Tribe, the White Mountain Apache Tribe, the Mescalero Apache Tribe, the Pueblo of Isleta, the Fort Sill Apache Tribe, the Pueblo of Acoma, and the Navajo Nation.
- M. As required by §19.10.5.505.C NMAC, the application for permit revision was in a format acceptable to the Director.
- N. As required by §19.10.5.505.D NMAC, the permit revision meets the requirements of §19.10.5.507 (“Existing Unit Standards”) and §19.10.5.508 NMAC (“New Unit Standards”) where applicable and the requirements of paragraphs 1, 2, 4, 5, and 6 of subsection H of Section 69-36-7 of the Act.
- O. The Permittee agrees to comply with the applicable requirements of the Act, the Rules, and the Permit during active status, as required by §§19.10.5.503.F(6) and 19.10.5.506.J(6) NMAC.
- P. The BLM conducted an Environmental Assessment of the Amendment to Mine Plan of Operations for the Little Rock Mine. A record of Decision and a Finding of No Significant Impact was issued by the BLM on December 9, 2022.

- Q. As required by §19.10.5.506.G NMAC the Revised Updated CCP was deemed approvable and the Permittee was notified of the approvable determination in a letter dated October 31, 2022.
- R. The Permittee has provided satisfactory financial assurance to complete the updated closeout plan for the Little Rock Mine as required by 19.10.5.506.J.2 NMAC in the amount of \$8,895,457.00, in the form of an Increase Rider to Surety Bond, No. 022055762 issued by the Liberty Mutual Insurance Company, dated January 19, 2023.
- S. The cover or reclaimed surface material currently conditionally approved to be used to complete the updated closeout plan will consist of “Precambrian granite” excavated from the Little Rock Mine.
- T. The approved Post-Mining Land Use (“PMLU”) for the permit area is wildlife habitat. The Revised Updated CCP, subject to the conditions in this Permit Revision, demonstrates that the work to be done will reclaim disturbed areas within the permit area to a condition that allows for the re-establishment of a self-sustaining ecosystem on the permit area following closeout, appropriate for the life zone of the surrounding area, pursuant to 19.10.5.507.A NMAC.
- U. Pursuant to 19.10.5.506.J.5 NMAC, NMED Written Determination dated February 8, 2023, and signed by NMED Cabinet Secretary on February 7, 2023, that Freeport-McMoRan Tyrone Inc. has demonstrated that the activities proposed or authorized for the Little Rock Mine are expected to achieve compliance with all applicable air, water quality, and other environmental standards if carried out as described in NMMA Permit No. GR007RE and associated state and federal environmental permits.

Section 4 (20-1). **COMPLIANCE REQUIREMENTS**

- A. The Permittee shall conduct mining and reclamation operations only as described in the approved 20-1 PRP, this Permit or any revisions or modifications approved by the Director, as required by §19.10.5.505 NMAC.
- B. This Permit Revision 20-1 is issued pursuant to NMSA 1978, Section 69-36-1 et. seq. and Title 19, Chapter 10 NMAC. Permittee may be required to comply with other federal, State, county or local laws or ordinances before or while undertaking the activity that is the subject of this Permit Revision. MMD does not, by issuing this Permit Revision or otherwise, make any comment on Permittee’s compliance with such other laws. It is Permittee’s sole responsibility to investigate and comply with the requirements of such other laws.
- C. The Reclaimed Copper Leach Stockpile and P-Plant Area is partially on land managed by the BLM, Las Cruces Field Office; and the USDA Forest Service, Gila National Forest and the expiration or termination of landholder authorization to conduct mining operations on that property automatically suspends the Permittee’s authority to continue mining on that property. Such suspension does not include reclamation operations by the

Permit issued under §19.10.5.504 NMAC.

- D. The Permittee shall obtain and maintain all environmental permits required for the permit area, including, but not limited to, the Mine Plan of Operations submitted to the BLM, Discharge Permit(s) issued by the NMED, and water rights granted by the New Mexico Office of the State Engineer. Revocation or termination of such a permit or the forfeiture of financial assurance related to such a permit is adequate grounds for the Director to issue a cessation order under authority of §19.10.5 and §19.10.11 NMAC with regard to the mining operations covered by such revocation, termination, or forfeiture.

Section 5 (20-1). AGENCY RIGHT OF ENTRY

The Permittee shall allow the authorized representatives of the Director, without advanced notice, upon presentation of appropriate credentials, and without delay:

- A. To enter upon, or through, any mining or reclamation operation at any time, as provided for in §19.10.11.1101.E(1) NMAC for the purpose of conducting inspections and to determine if the Permittee is in compliance with the Permit requirements and conditions; and
- B. At reasonable times, and without delay, have access to and copies of any records associated with permitting and compliance required by the Act, §19.10 NMAC or the Permit.

Section 6 (20-1). PERMIT COVERAGE / ENVIRONMENTAL COVERAGE

- A. This Permit shall be binding on any person(s) and/or corporate or business entities conducting mining and reclamation operations under this Permit.
- B. The Permittee shall take all necessary steps to minimize any adverse impact to the environment or public health and safety resulting from non-compliance with any term or condition of the Permit, the Rules, or the Act.
- C. The Permittee shall maintain this Permit until reclamation is complete at the site.

Water Rights

- D. This Permit does not grant or create any water rights. Nor does MMD, by approving this Permit or otherwise, make any comment on the water rights that the Permittee may or may not have available for use in the area covered by the Permit. Permittee is solely responsible and obligated to comply with all state and federal laws related to water rights sufficient to support the activities contemplated by the Permit.

Surface and Mineral Rights

- E. This Permit does not grant or create any property rights. Nor does MMD, by issuing this Permit or otherwise, make any comment on the surface or mineral rights that the

Permittee may or may not have in the area covered by the Permit; only that the Permittee has provided a statement of basis on which the Permittee has a right-to-enter the property to conduct mining and reclamation. Permittee is solely responsible to take whatever steps are necessary to ensure that Permittee has property rights sufficient to support the activities contemplated by the Permit.

Cultural Resources

- F. The Permittee shall comply with all state and federal requirements and standards as applicable, including without limitation any applicable requirements of the Cultural Properties Act, NMSA 1978, Section 18-6-1 to 27 and the regulations promulgated pursuant thereto.

Section 7 (20-1). GENERAL OBLIGATIONS AND CONDITIONS

In accordance with §19.10.5.506.I NMAC, the Director may approve a closeout plan subject to conditions necessary to meet the requirements of the Act and §19.10 NMAC. The conditions outlined in this section are required for the Permittee to meet certain requirements of the Rules.

- A. The Permittee shall notify MMD 30 days prior to performing any permanent closeout/reclamation activities at the mine site.
- B. The conditions specified in this Permit are required to mitigate the disturbance within the Permit Area and to ensure stabilization of the Permit Area and minimize future impacts to the environment and protect air and water resources in accordance with §19.10.1.7.R.(1) NMAC. The conditions specified in this Permit are necessary to reclaim the Permit Area to the conditions that allow for establishment of the designated PMLU of wildlife habitat.
- C. The Area of Existing Disturbance including Open Pit Area located within the Mining Area Design Limit; West In-Pit Waste stockpile; North In-Pit Waste stockpile; historical West Canyon stockpile; historical North Stockpile; reclaimed Copper Leach Stockpile and P- Plant Area including the Seepage Collection Pipeline; Sumps and associated water tanks; Spanning Arch Culvert; Existing Little Rock Haul Roads; Northern Haul Road (approved in Modification 20-1), and the Dewatering Pipeline to the Tyrone Mine 1X1 Lined Pond as shown in Figure 6-2 of the Revised Updated CCP, dated June 29, 2022, is subject to the reclamation standard of §19.10.5.507.A NMAC.
- D. The Area of the New Unit Disturbance approved in this Permit Revision that will be located within the Little Rock Mine Permit Area as shown on Figure 6-2 of the Revised Updated CCP, dated June 29, 2022, is subject to the standards of §19.10.5.507.A NMAC and §19.10.5.508 NMAC.
- E. The Permittee may be subject to enforcement action according to §19.10.11 NMAC for failing to conduct reclamation and closeout operations as described in the Revised Updated CCP; for violation of any of the terms or conditions of the Act, the Rules, the Permit, as revised or modified; or for failing to submit any of the following:

1. annual reports as required by 19.10.5.510 NMAC; and
2. annual fees as required by 19.10.2.202 NMAC.

F. The Permittee shall include, in the annual reports, information required by 19.10.5.510 NMAC. In addition, the following information shall be included:

1. the status of closeout activities for each unit;
2. any maintenance and repair work conducted for any closeout component;
3. the date the work was done;
4. vegetation monitoring data as described in Appendix A;
5. vegetation and wildlife monitoring data collected on revegetated areas;
6. meteorological data collected for the Little Rock Mine; and
7. monitoring results of pit wall stability as described in Condition 7.H.2.c (at closeout).

G. **Construction Quality Assurance Plan**

1. The Permittee shall submit a final design and a CQA plan to MMD for approval not less than 180 days prior to, or an acceptable time agreeable to MMD, before commencement of any reclamation activities and shall implement the final design and CQA plan only after MMD approval. The final design will include detailed engineering designs addressing slopes, surface erosion controls and stormwater management structures for MMD approval. The CQA plan shall include: a description of work to be conducted and identification of borrow areas. Design specifications may be modified during the final engineering design with MMD approval.
2. The CQA plan shall be supplemented to include a final report to be submitted to MMD not more than 180 days after construction completion. The report shall include a summary of work conducted, as-built drawings and demonstration that final design specifications for slopes, covers and for stormwater management structures were achieved during construction. The CQA final report shall describe, at minimum, as-built drawings, a final topographic map with no greater than two-foot contour intervals for the top surfaces and no greater than ten-foot contour intervals for the out slopes, and construction photographs.

H. **Open Pit Area**

The following conditions apply to the Open Pit Area:

The conditions for the Open Pit Area are required to mitigate the disturbances within the Permit area and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources, in accordance with §19.10.1.7.R(1) NMAC. The conditions are also required to reclaim the Open Pit Area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by §19.10.5.507.A NMAC. Additionally, the portions of the Open Pit Area shown on Figure 6-2 of the Revised Updated CCP, and as defined in Section 7.D is subject to the standards

of §19.10.5.508 NMAC. The specifications contained in Section H may be modified in final engineering design, with MMD approval.

1. Environmental Studies and Reports

The Permittee shall submit copies of all studies required as a condition of DP-1236, other than routine monitoring reports, to MMD. If such studies provide new information that shows the need to modify the closeout plan to meet the requirements of §19.10 NMAC, then MMD may require the Permittee to modify the closeout plan through an application for modification or revision of this Permit.

2. Public Health and Safety

The Permittee shall ensure that the Open Pit Area does not pose a current or future hazard to public health or safety and will take measures to limit future access to the Open Pit Area only to authorized personnel by implementing the following conditions at closeout:

- a) construction and maintenance of 6-foot chain link fencing and earthen berms approximately 40-feet from the open pit highwall crest or the existing approved fence and berm shall be maintained around the perimeter of the Open Pit Area where highwalls exist (Sheet 12 of Appendix A of the Updated CCP);
- b) signage posted, on fencing at 500-foot intervals approved intervals and at all access points, warning of potential hazards present;
- c) visual inspections to monitor stability of the Open Pit walls on a quarterly basis to identify potential failure areas which may adversely impact the environment and public health or safety. If potential failure areas are identified through monitoring, the Permittee shall propose measures to mitigate the hazard caused by the potential failure areas within 30 days of identification for MMD approval; and
- d) to allow Open Pit access for maintenance activities by authorized personnel, locked gates may be placed at appropriate locations in association with the berm/fence combination.

3. Surface Shaping and Stormwater Management

Safely accessible flat surfaces of the Open Pit (including roads and benches), not covered by a pit lake (Figure 2-1 of the Updated CCP, Appendix B of Revision 20-1), shall be graded for stormwater control, ripped to a depth of 18 to 24 inches and revegetated according to the requirements of Appendix A.

4. Cover Placement Plan

After final grading, the areas where the surface is excessively coarse with insufficient fines to create an adequate seedbed shall be covered with four (4) inches of approved fine-grained cover material in order to enhance the seedbed. The textural characteristics

of the cover material shall be supportive of a self-sustaining ecosystem. The areas where fine-grained cover material has been added will be inspected by MMD for concurrence that an adequate seedbed has been established. The Permittee shall coordinate the inspections with MMD providing at least 7-days advanced notice for the cover material inspection.

5. Revegetation Plan

Ripped surfaces in the Open Pit shall be revegetated in accordance with revegetation standards set forth in Appendix A.

6. Post-Mining Land Use

The PMLU for the Open Pit Area shall be *wildlife habitat*. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:

- a) Areas to be revegetated within the Open Pit Area shall meet approved MMD revegetation standards and shall be monitored in accordance with Appendix A;
- b) wildlife use shall be documented after reclamation by conducting wildlife surveys including, but not necessarily limited to, deer pellet count surveys and bird diversity surveys;
- c) the Permittee shall take measures at closeout, to minimize adverse impacts to waterfowl and other wildlife, resulting from ponding or water impounded in the Open Pit Area if ponded water does not meet applicable standards. Such measures will involve a hazard evaluation and then implementation of the appropriate mitigation measures to be used at closeout; and
- d) the Permittee shall construct or maintain existing fencing and berms around the perimeter of the reclaimed areas that excludes livestock and is protective of wildlife (Sheet 12 of Appendix A of the Updated CCP). Fencing and berms located around the rim of the Open Pit shall remain in place for public safety and shall be maintained until the financial assurance for the reclaimed areas is released under §19.10.12 NMAC.

I. Stockpiles

The conditions in this permit revision for the West In-Pit Waste, East In-Pit Waste (not covered by a pit lake), North In-Pit Waste (not covered by a pit lake), North and the West Canyon stockpiles, and the NRW Waste stockpile are required to mitigate the disturbances within the Permit area and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources, in accordance with §19.10.1.7.R.(1) NMAC. The conditions are also required to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by §19.10.5.507.A NMAC. Additionally, the stockpile portions that are New

Unit disturbances as shown on Figure 6-2 of the Revised Updated CCP, dated June 29, 2022, are subject to the standards of §19.10.5.508 NMAC. The specifications contained in Section I may be modified in final engineering design with MMD approval.

The following conditions apply to the **West In-Pit Waste**, **East In-Pit Waste** (not covered by the pit lake), **North In-Pit Waste** (not covered by the pit lake), and **NRW Waste Stockpiles**:

1. Surface Shaping and Stormwater Management

- a) The Permittee shall regrade the stockpiles in a manner that ensures positive drainage (as described in the Updated CCP). Where stockpiles are intersecting the pit lake, slopes shall be left that enable wildlife to safely access the pit lake.
- b) Stormwater run-on controls shall be constructed and maintained to direct stormwater flows around the NRW Waste Stockpile as approved by MMD.
- c) Terrace benching on the stockpiles shall be constructed at slope lengths of no greater than 200 feet. If terrace benches are constructed, each individual slope segment shall be no steeper than 3:1 (horizontal: vertical) and terrace benches shall be a maximum of 32-feet wide, inclined up to 2% towards the interior portion of the slope face immediately above it, and have a longitudinal gradient of no greater than 2%.
- d) The Permittee shall provide MMD with detailed plans for stormwater management and best management practices for erosion control, for MMD approval, at least 180 days before proposed implementation of construction activities and shall implement the plans after MMD approval. The Permittee may conduct pre-grading, rough grading, or pre-final grading necessary to complete final design work but must also implement interim best management practices to control sediment transport in conformance with surface water regulations until the detailed design is approved by MMD, and the final design and final best management practices are constructed. The Permittee may change pre-final-graded slopes for final slope design in order to meet MMD requirements at closeout. The Permittee shall design, construct, and maintain best management practices for erosion control identified by the U.S.D.A. Natural Resource Conservation Service or alternative equivalent standards acceptable to MMD.

2. Cover Placement Plan

- a) Surfaces of the stockpiles, not covered by a pit lake, shall be ripped to a depth of 18 to 24 inches. After final grading, the areas where the surface is excessively coarse with insufficient fines to create an adequate seedbed shall be covered with four (4) inches of approved fine-grained cover material in order to enhance the seedbed. The textural characteristics of the cover material shall be supportive of a self-sustaining ecosystem.

- b) Alternate closeout actions, as determined by MMD, to allow for the establishment of a self-sustaining ecosystem, and/or-meet the requirements of reclamation defined under §19.10.1.7.R (1) NMAC, may require that the Permittee modify or revise the Permit in accordance with §19.10.5.504.B and §19.10.5.505.B NMAC pending the results of the Cover Design Evaluation (Section 7.Q.1).

3. Revegetation Plan

Covered and/or ripped surfaces of the stockpiles shall be revegetated in accordance with revegetation standards set forth in Appendix A.

4. Post-Mining Land Use

The PMLU for the In-Pit Stockpile shall be *wildlife habitat*. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:

- a) vegetation in the reclaimed areas shall meet approved MMD revegetation standards and shall be monitored in accordance with Appendix A;
- b) wildlife use shall be documented after reclamation by conducting wildlife surveys including, but not necessarily limited to, deer pellet count surveys and bird diversity surveys; and
- c) the Permittee shall construct or maintain existing approved fencing around the perimeter of the seeded areas that exclude livestock and is protective of wildlife (Sheet 12 of Appendix A of the Updated CCP). Perimeter fencing shall be maintained until the financial assurance for the reclaimed areas is released under §19.10.12 NMAC.

The following conditions apply to the North Stockpile (if re-disturbed):

1. Surface Shaping and Stormwater Management

- a) the Permittee shall regrade the North Stockpile in a manner that ensures positive drainage (as described in the Updated CCP) and eliminates, to the extent practicable, ponding on the top surfaces and final regraded surfaces. Portions of the North Stockpile that have not been re- disturbed by mining or excavation of cover material and that meet the standards addressed in Appendix A and are erosionally stable are exempt from regrading and reseeded.
- b) the Permittee shall provide MMD with detailed plans for stormwater management and best management practices for erosion control, for MMD approval, at least 180 days before proposed implementation and shall implement the plans after MMD approval. The Permittee shall design, construct, and maintain best management practices for erosion control identified by the U.S.D.A Natural Resource Conservation Service or alternative equivalent standards acceptable to MMD.

- c) the North Stockpile (if re-disturbed) shall be graded for stormwater control, ripped to an overall minimum depth of 18 to 24 inches, and revegetated according to the requirements of Appendix A. All slopes shall have a Slope Angle no steeper than 3:1, unless alternative regrading, cover, and revegetation designs are demonstrated and approved by MMD through studies and field-testing, to allow for re-establishment of a self-sustaining ecosystem that meets the standards addressed in Appendix A.

2. Revegetation Plan

The North Stockpile, shall be revegetated in accordance with revegetation standards set forth in Appendix A.

3. Post-Mining Land Use

The PMLU for the North Stockpile shall be *wildlife habitat*. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:

- a) vegetation in the reclaimed areas shall meet approved MMD revegetation standards and shall be monitored in accordance with Appendix A;
- b) wildlife use shall be documented after reclamation by conducting wildlife surveys including, but not necessarily limited to, deer pellet count surveys and bird diversity surveys; and
- c) the Permittee shall construct or maintain existing approved fencing around the perimeter of the seeded areas that exclude livestock and is protective of wildlife (Sheet 12 of Appendix A of the Updated CCP). Perimeter fencing shall be maintained until the financial assurance for the reclaimed areas is released under §19.10.12 NMAC.

The following conditions apply to the **West Canyon Stockpile** (if re-disturbed):

1. Surface Shaping and Stormwater Management

- a) The Permittee shall regrade the West Canyon Stockpile in a manner that ensures positive drainage and eliminates, to the extent practicable, ponding on the top surfaces and final regraded surfaces (as described in the Updated CCP). Portions of the West Canyon Stockpile that have not been re-disturbed by mining or excavation of cover material and meet the standards addressed in Appendix A and are erosionally stable are exempt from regrading and reseeding.
- b) Stormwater runoff controls shall be constructed and maintained to direct stormwater flows around the West Canyon Stockpile. The Permittee shall provide MMD with detailed plans for stormwater management and best management practices for erosion control, for MMD approval, at least 180 days before proposed implementation and

shall implement the plans after MMD approval. The Permittee shall design, construct, and maintain best management practices for erosion control identified by the U.S.D.A. Natural Resource Conservation Service or alternative equivalent standards acceptable to MMD.

- c) The West Canyon Stockpile shall be graded for stormwater control, ripped to an overall minimum depth of 18 to 24 inches, and revegetated according to the requirements of Appendix A. All slopes shall have a Slope Angle no steeper than 3:1, unless alternative regrading, cover, and revegetation designs are demonstrated and approved by MMD through studies and field-testing, to allow for re-establishment of a self-sustaining ecosystem that meets the standards addressed in Appendix A.

2. Revegetation Plan

The West Canyon Stockpile shall be revegetated in accordance with revegetation standards set forth in Appendix A.

3. Post-Mining Land Use

The PMLU for the West Canyon Stockpile shall be *wildlife habitat*. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:

- a) vegetation in the reclaimed areas shall meet approved MMD revegetation standards and shall be monitored in accordance with Appendix A;
- b) wildlife use shall be documented after reclamation by conducting wildlife surveys including, but not necessarily limited to, deer pellet count surveys and bird diversity surveys; and
- c) the Permittee shall construct or maintain existing approved fencing around the perimeter of the seeded areas that excludes livestock and is protective of wildlife (Sheet 12 of Appendix A of the Updated CCP). Perimeter fencing shall be maintained until the financial assurance for the reclaimed areas is released under §19.10.12 NMAC.

The following conditions apply to the **Copper Leach Stockpile and Precipitation Plant Area** that was reclaimed in 2010:

1. Stormwater Management

Stormwater flows in the diversion channel located to the north of the reclaimed Copper Leach Stockpile and the diversion channel located at the reclaimed Precipitation Plant may be directed to the Open Pit Area. During reclamation and after reclamation of the stockpile, the stormwater flow from the reclaimed Copper Leach Stockpile and Precipitation Plant shall be directed to a diversion channel constructed and California Gulch to direct stormwater to the Open Pit Sump or the Open Pit Lake.

2. Revegetation Plan

The reclaimed Copper Leach Stockpile and Precipitation Plant shall have revegetated areas monitored in accordance with Appendix A. Areas where vegetation has not been successfully established shall be reseeded or inter-seeded.

3. Post-Mining Land Use

The PMLU for the Copper Leach Stockpile and Precipitation Plant shall be *wildlife habitat*. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:

- a) vegetation in the reclaimed areas shall meet approved MMD revegetation standards and shall be monitored in accordance with Appendix A;
- b) wildlife use shall be documented after reclamation by conducting wildlife surveys including, but not necessarily limited to, deer pellet count surveys and bird diversity surveys; and
- c) the Permittee shall construct or maintain existing approved fencing around the perimeter of the seeded areas that excludes livestock and is protective of wildlife (Sheet 12 of Appendix A of the Updated CCP). Perimeter fencing shall be maintained until the financial assurance for the reclaimed areas is released under §19.10.12 NMAC.

J. Exploration Drill Holes

The Permittee shall properly abandon and seal all exploration holes within the permit area. Wells and holes shall be abandoned in accordance with requirements from the New Mexico Office of the State Engineer where no longer required for post-closure operations, maintenance, or monitoring. If Permittee conducts exploration within the permit area that creates a new disturbance, the Permittee shall identify the general areas or locations within the permit area where exploration activities have taken place and provide general design information regarding measures that will be taken to minimize disturbance, enhance stability and control erosion. The Permittee shall also identify any areas of new disturbance due to exploration activities in each annual report submitted to MMD. All new disturbed areas from exploration shall be revegetated in accordance with Appendix A.

K. Pipelines

The following condition applies to the Seepage Collection pipeline(s) and the Little Rock Sump pipeline, when they are no longer needed to transport seepage and stormwater to the No. 1X1 lined pond at the Tyrone Mine, or an alternative discharge point approved by NMED. This condition is required to mitigate the disturbances within the Permit area and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources, in accordance with §19.10.1.7.R.1

NMAC. The condition, also, is required to reclaim the Permit area to a condition that allows for reestablishment of a self-sustaining ecosystem, as required by §19.10.5.507.A NMAC, and to meet applicable environmental standards, as required by §69-36-11.B (4) of the Act and §19.10.5.506.J.5 NMAC.

1. The Permittee shall remove and properly dispose of pipelines, or bury each pipeline or segments thereof, and close the associated sumps if not needed for water treatment, unless Permittee demonstrates to NMED that leaving the pipelines in place will not result in exceedance of the standards of §20.6.1 and §20.6.2 NMAC, of the Water Quality Control Commission regulations. Where pipelines are buried where soil contamination is identified, the cover material shall be no less than 36 inches thick. These areas shall be ripped and revegetated in accordance with Appendix A. Design specifications may be changed during final engineering design with MMD approval.
2. The Permittee shall inspect the pipeline for any evidence of spills and characterize the impacts during pipeline removal. Where the pipeline is removed, the pipeline corridor shall be revegetated in accordance with Appendix A.
3. Prior to closure of the pipelines and corridors, the Permittee shall submit reclamation plans for MMD approval not more than 180 days prior to proposed implementation and shall implement the plans after MMD approval.

L. **Haul Roads**

The following conditions apply to all haul roads identified in the Permit area not required for closeout and post-closeout (Sheet 12 of Appendix A of the Updated CCP). These conditions are required in order to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem, as required by §19.10.5.507.A and §19.10.5.508 NMAC, and to meet applicable environmental standards, as required by the NMED, pursuant to §19.10.5.506.J.5 NMAC.

1. Where located on non-acid-generating material, the surfaces of haul roads shall be ripped to a depth of 18 to 24 inches. Where located on acid-generating material, the surfaces of haul roads shall be covered with a minimum of 36 inches of approved cover material. Culverts shall be removed on all haul roads where practicable and not required for post-closeout water management. The ripped, and/or covered surfaces shall be graded for stormwater control.
2. Pursuant to §19.10.5.508.B (9) NMAC. Roads shall be constructed and maintained during operation and reclamation to control erosion.
3. Haul roads shall be revegetated and monitored in accordance with Appendix A. Tree and shrub seedlings shall be planted in the area bordering the reclaimed haul road crossing of Deadman Canyon. The Northern Haul Road, Southern Haul Road, and the Western Haul Road identified on Figure 6-2 shall meet the standards of §19.10.5.508.E NMAC where applicable and approved by MMD. The Permittee shall

submit to MMD, for approval, detailed plans for seedling planting, at least 180 days before proposed implementation, and shall implement the plans after MMD approval.

4. Roads required for continued site maintenance and monitoring shall be proposed in the final closeout engineering design for approval by MMD.

M. **Monitor Wells**

Unless required to be maintained for the DP-1236 or other purposes, the Permittee shall abandon all groundwater monitoring wells, in accordance with the requirements of NMED *Monitoring Well Construction and Abandonment Guidelines*; and discharge permit DP-1236; or the NMOSE regulations in §19.27.7 NMAC.

N. **Ancillary Facilities**

The following conditions apply to Ancillary Facilities identified in the Permit area and on Figure 2-1, of the Revised Updated CCP, dated March 31, 2022, and all disturbed areas used for storage of explosives, fuel, and reagents. These conditions are required in order to establish the PMLU on a Permit area approved by the Director, pursuant to §19.10.1.7.P (5) NMAC, and to mitigate the disturbances within the Permit area, and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources in accordance with §19.10.1.7.R.(1) NMAC.

1. **Electrical Distribution System**

The Permittee shall remove all electrical systems and infrastructure that are not necessary for the site operation and maintenance, including but not limited to, the power substation and transmission lines. Power poles shall be removed, unless left in place as raptor habitat and approved by MMD. All related disturbed areas shall be graded for stormwater control ripped to a depth of 18 to 24 inches. Where located on acid-generating material, the surfaces shall be covered with a minimum of 36 inches of approved cover material, and revegetated according to the requirements of Appendix A.

2. **Explosives, Fuel, and Reagent Storage Areas**

The Permittee shall remove and properly dispose of explosives, fuel, and reagent chemicals and materials. All disturbed storage areas shall be graded for stormwater control ripped to a depth of 18 to 24 inches. Where located on acid-generating material, the surfaces shall be covered with a minimum of 36 inches of approved cover material, and revegetated according to the requirements of Appendix A.

3. **Water Supply and Stormwater Structures**

The Permittee shall remove all water tanks, if any exist, and decant ponds at the completion of mining if not approved to remain in operation on site as part of the

reclamation final design or required for closure. The water tank and decant pond areas shall be graded for stormwater control ripped to a depth of 18 to 24 inches. Where located on acid- generating material, the surfaces shall be covered with a minimum of 36 inches of approved cover material, and revegetated according to the requirements of Appendix A. The Permittee shall propose to MMD, for approval, an alternative depth if results of characterization of soil contamination, as required by NMED, show that soil contamination has occurred.

O. **Other Non-Specified Areas**

The following condition applies to any other disturbances within the Permit area resulting from the existing mining operation, not identified specifically in the 20-1 PRP, or this Permit Revision. This condition is required in order to reclaim the Permit area to a condition that allows for reestablishment of a self-sustaining ecosystem, as required by §19.10.5.507.A of the Rules.

All areas previously disturbed and not identified specifically as a mine unit or borrow area, and not otherwise addressed specifically in this Revision, shall be: 1) graded for stormwater control; 2) either (a) ripped to a depth of 18 to 24 inches, or if located on acid-generating material, the surfaces shall be covered with a minimum of 36 inches of approved cover material; and 3) revegetated and monitored in accordance with Appendix A.

P. **Environmental Impact Statement**

1. The Permittee shall submit, to MMD, any submittals approved by the BLM under the National Environmental Policy Act. Submittals required by BLM that may affect New Mexico Mining Act requirements, or are necessary for New Mexico Mining Act requirements, shall be submitted to MMD for approval. The BLM submittals must meet the requirements of the site assessment previously submitted, pursuant to Section 69-36-5 of the NMMA, and requiring updates as required by §19.10.5.502.D.(4) NMAC.
2. If any of the BLM submittals indicate that additional or alternative closeout actions are necessary, or desirable, in MMD's judgment to ensure the establishment of a self-sustaining ecosystem and/or meet the requirements of reclamation defined under §19.10.1.7.R (1) NMAC, the Permittee shall apply to modify or revise the Permit accordingly. MMD will review the submittal to determine if a modification or revision of this Permit is required by §19.10.5.504.B and §19.10.5.505.B NMAC.

Q. **Additional Studies**

1. **Cover Design Evaluation**

The USNR test plot study is in progress in accordance with an approved Test Plot Study Work Plan, dated November 26, 2014, with modifications approved by MMD in

Modification 17-1, dated April 14, 2017.

The condition for test plots was required so that the Permittee can demonstrate that proposed revegetation and reclamation measures or alternative revegetation and reclamation measures that will reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by §19.10.5.507.A NMAC.

- a) The Permittee has submitted an application to terminate the USNR test plot study and for approval of the Little Rock Precambrian granite for use as RCM. MMD is processing the application for Modification 22-1 for termination of the USNR test plot study and approval of the Little Rock Mine Precambrian granite as RCM for the Little Rock Mine (and for the Tyrone Mine under Modification 22-1 to Permit No. GR010RE).
- b) If the results of the test plot study indicate, as determined by MMD, that alternative or additional closeout actions are necessary to allow for the establishment of a self-sustaining ecosystem, and/or meet the requirements of reclamation defined under §19.10.1.7.R.1 NMAC, MMD will require that the Permittee modify or revise the Permit in accordance with §19.10.5.504.B and §19.10.5.505.B NMAC.

2. Affected Areas

All affected areas, as defined by §19.10.1.7.A.3 NMAC, shall be reclaimed according to §19.10.1.7.R.1 NMAC. The Permittee shall supplement the Affected Areas study to identify areas affected by expansion of the mine disturbance approved in this permit revision in accordance with a schedule approved by MMD. If results of the study indicate that change(s) should be made, in MMD's judgment, to the Updated Closure/Closeout Plan, MMD will require the Permittee to submit a request to modify or revise the Permit. MMD will review the information to determine if a modification or revision of this Permit should be made under §19.10.5.504.B and §19.10.5.505.B NMAC.

3. Precipitation Analysis

The permittee submitted a precipitation analysis workplan for Tyrone Mine that includes the Little Rock Mine area. The workplan includes the evaluation of current climatological site condition data and provide forward projections, to determine the adequacy of the design of stormwater structures proposed for closeout at the Little Rock Mine. The analysis shall consider stormwater impacts to existing reclaimed mine units and performance of associated stormwater structures during recent documented storm events at the Little Rock Mine. The workplan addresses all areas of the mine where reclamation is to occur.

4. Studies for Other Agencies

The Permittee shall submit to MMD copies of any work plans or studies for reclamation or closeout of the Permit area and affected areas required by NMED or other State or

federal agencies. If any submittals to NMED, or such other agencies, indicate, as determined by MMD, that additional or alternative closeout actions are necessary to meet the requirements of the Rules or Act, the MMD will require the Permittee to submit a request to modify or revise the Permit. MMD will review the request to determine if a modification or revision of the Permit should be made under §19.10.5.504.B and §19.10.5.505.B NMAC.

R. **Financial Assurance**

The following conditions are required to ensure that adequate financial assurance is provided for the site, pursuant to §19.10.5.506.J.2, §19.10.12.1202.B, §19.10.12.1204.A, §19.10.12.1206.A, and §19.10.12.1210 NMAC.

1. The Permittee may apply for release of financial assurance in accordance with §19.10.12.1210 NMAC.
2. The approved cost estimate amount for the updated closeout plan is \$8,895,457.00.
3. The Permittee currently maintains financial assurance for the Little Rock Mine in the amount of \$8,895,457.00, using Surety Bond No. 022055762, issued by the Liberty Mutual Insurance Company to MMD, NMED and the BLM as joint beneficiaries.
4. The Permittee shall be responsible at all times to maintain financial assurance in a form, or forms, and in an amount that is acceptable to MMD, pursuant to the Rules.
5. The Permittee may replace the Surety Bond with other forms of financial assurance acceptable to the Director, pursuant to §19.10.12.1209 NMAC. The Director may require adjustment of the financial assurance as provided in §19.10.12.1206 NMAC.

S. **Post-Closeout Monitoring and Maintenance**

1. Erosion

The following conditions apply to all of the reclaimed areas. The conditions for the monitoring and maintenance of the reclaimed areas are required to mitigate the disturbances within the Permit area and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources, in accordance with §19.10.1.7.R.1 NMAC. The conditions, also, are required to reclaim the Permit area to a condition that allows for reestablishment of a self-sustaining ecosystem, as required by §19.10.5.507.A and to meet the requirements of §19.10.5.508.D NMAC, and to meet applicable environmental standards as required by 69-36-11.B(4) of the Act and §19.10.5.506.J.5 NMAC.

- a) The Permittee shall visibly inspect reclaimed lands for signs of significant erosion and shall mitigate significant erosion features to prevent further degradation of the site. Drainage channels, diversion structures, retention ponds, and auxiliary erosion

control measures will be inspected, in accordance with nationally recognized standards of the U.S.D.A. Natural Resource Conservation Service, or alternative equivalent best management practices acceptable to MMD. Inspections of specific units shall continue until those specific units are released under the Rules. Inspections shall be conducted monthly for the first year following completion of reclamation construction activities for each unit, and quarterly, thereafter. The Permittee also shall inspect for evidence of erosion after storm events of one inch, or greater, in any 24-hour period. Inspections shall continue until the specific units are released under the Rules. Release by MMD shall not affect the right of other State or federal agencies to require continued inspections after release by MMD.

- b) The Permittee shall report evidence of significant rill, gully, or sheet erosion on any reclaimed area within 24 hours of discovery. The Permittee shall then provide the MMD and NMED, a written report that describes the nature and extent of erosion and a corrective action plan, for approval by MMD, according to the following schedule: The Permittee shall provide the report within 30 days of discovery. The corrective action plan shall describe the efforts necessary to stabilize the affected area. The plan shall be implemented as soon as practicable following regulatory approval.
- c) Erosion control measures that are damaged, or ineffective, shall be repaired, or re-designed as necessary. The Permittee shall use a variety of erosion control measures, as needed, if erosion control problems develop. Long-term erosion control measures will include, but not be limited to, the installation of berms, designed channels, and sediment containment structures, as necessary, and shall be designed for a 100-year, 24-hour, storm event. Short-term erosion control measures may include, but not be limited to silt fences, hay bales, water bars, and mulching.

2. Wildlife Monitoring

The Permittee shall document wildlife use of areas to be reclaimed for a post-mining wildlife habitat as follows:

- a) deer pellet group counts shall be conducted in year 6 after reseeding, and in 2 years of the last 4 years prior to release of financial assurance; and
- b) bird diversity surveys shall be conducted twice in year 6 after reseeding, and in 2 years of the last 4 years prior to release of financial assurance.

The deer pellet group counts, the bird diversity and vegetation surveys shall be conducted within a twelve-month period as required in Appendix A. Results of the surveys will be evaluated to determine wildlife-use trends during re-establishment of a self-sustaining ecosystem. The Permittee shall submit to MMD, for approval, an updated wildlife monitoring work plan, identifying sampling methodologies and a map with proposed sampling locations at least 45 days prior to implementation of each wildlife monitoring survey. The Permittee shall perform the wildlife monitoring surveys in accordance with the MMD approved, updated wildlife monitoring work plan.

3. Notification

The Permittee shall notify MMD at least two weeks prior to any monitoring conducted pursuant to this Revision. Monitoring shall be scheduled and arranged so that MMD may accompany personnel of the Permittee, if MMD chooses to do so.

T. Water Quality

The Permittee shall submit to MMD a copy of any submittals approved by NMED on ground and surface water modeling, and geochemical characterization and modeling, necessary for closure. The Permittee shall submit to MMD any studies required by, or otherwise submitted to, NMED. If any of these submittals indicate that additional, or alternative, closeout actions should be made, including implementation of measures to protect wildlife, in MMD's judgment, to meet the requirements of the Act or Rules, MMD will require the Permittee to modify or revise the Permit. MMD will review the request to determine if a modification or revision of this Permit should be made under §19.10.5.504.B and §19.10.5.505.B NMAC.

U. Reclamation Schedule

The reclamation schedule is required pursuant to §19.10.5.506.B.1 NMAC. The reclamation schedule for the Little Rock Mine shall begin in accordance with the schedule identified below unless earlier reclamation is required by other agencies.

Reclamation of the Little Rock Mine shall begin no later than 180 days after cessation of mining unless the Permittee has applied for standby status for the Little Rock Mine.

During reclamation, measures shall be taken to provide for the stabilization of the disturbances that will minimize future impact to the environment and protect air and water resources.

Reclamation shall be completed in accordance with the Reclamation Schedule shown in Table 1:

Table 1: Reclamation Schedule for the Little Rock Mine

| Unit | Anticipated or Actual Start Date for Reclamation to Begin ^a | Anticipated Duration (Years) ^b or Completion Date |
|--|--|--|
| East In-Pit Waste Stockpile | 180 days following Cessation of Operation | 1 |
| North In-Pit Waste Stockpile | 180 days following Cessation of Operation | NA |
| West In-Pit Waste Stockpile | 180 days following Cessation of Operation | 2 |
| NRW Waste Stockpile | 180 days following Cessation of Operation | 1 |
| Open Pit ^c | 180 days following Cessation of Operation | 2 |
| Haul Roads and Access Roads ^d | 180 days following Cessation of Operation | 1 |
| Pipelines ^e | 180 days after the pipelines are no longer needed | 1 |
| Deadman Canyon Diversion | 180 days following Cessation of Operation | 2 |
| North Stockpile | Immediately after all other areas are reclaimed | 1 |
| Ancillary Facilities and Structures | 180 days following Cessation of Operation | 1 |

Notes:

a Anticipated start dates are subject to modification, with MMD approval.

b Estimated duration for facility reclamation does not include regulatory design review and approval processes.

c Applies to flat areas within the open pit that are located above the pit lake surface. Accessible pit flat areas are defined as pit haul road driving surfaces and flat areas 50-feet or greater from a highwall.

d Applies to haul roads and access roads not required for post-closure monitoring access.

e Applies to portions of pipeline alignment #1 and #2 that extend from the open pit sump to the crest of the pit. The remaining portions of pipeline located outside the perimeter of the open pit will remain during the post-closure period.

NA – Not applicable

The Permittee may submit for MMD approval, a request to modify or revise the Reclamation Schedule.

V. Temporary Cessation

If, due to a temporary cessation of Mining Operation exceeding 180 days, and the Permittee wishes to suspend reclamation pursuant to the Reclamation Schedule provided above, the Permittee shall submit an application for a Permit Revision for standby status pursuant to §19.10.5.505 and §19.10.7 NMAC.

W. **Compliance with Environmental Permits**

Pursuant to §19.10.5.509.C NMAC, during the term of the Permit, as revised and/or modified, issued pursuant to §19.10. NMAC, the Permittee must maintain environmental permits required for the Permit area. Revocation, or termination of such a permit, or the forfeiture of financial assurance that is related to the Permit area, and required by another governmental agency, is adequate grounds for the Director to issue a cessation order pursuant to §19.10.11 NMAC.

X. **Closeout Plan Update**

The Permittee shall submit an updated closeout plan, by **November 2, 2026**. If MMD determines that alternative or additional closeout actions are necessary, prior to submission of the updated closeout plan, to allow for the establishment of a self-sustaining ecosystem, and/or meet the requirements of reclamation defined under §19.10.1.7.R.1 NMAC, MMD will require that the Permittee modify or revise the Permit in accordance with §19.10.5.504.B and §19.10.5.505.B NMAC. Modifications or revisions to a portion, or portions, of the Permit will be required prior to submission of the updated closeout plan if the submittals, or studies, addressed under DP-1236, warrant, in MMD's judgment, such action.

Y. The Permittee shall comply with all other state and federal requirements and standards including without limitation the Cultural Properties Act, NMSA 1978, Section 18-6-1 to 27 and regulations promulgated pursuant thereto.

Section 10 (20-1). **CONCLUSIONS OF LAW**

- A. The Director has jurisdiction over the Permittee and the subject matter of this proceeding.
- B. The 20-1 PRP is complete, accurate, and complies with the requirements of the Act and Sections §19.10.5.502 NMAC and §19.10.5.503 NMAC and with conditions described in this Permit Revision document.
- C. The 20-1 PRP is complete, accurate, and complies with the requirements of Section §19.10.5.505 NMAC. The Permittee, Tyrone, is permitted pursuant to the New Mexico Mining Act to conduct mining and reclamation operations at the Little Rock Mine, Grant County, New Mexico, upon the condition that the Permittee complies with the requirements of this Order, the Act, the Rules, Permit No. GR007RE, and all modifications thereof and revisions thereto.

All other provisions, modifications, and revisions for mining and reclamation contained in the Little Rock Mine Permit No. GR007RE, remain unchanged.

CERTIFICATION

I certify that I have read, understand and will comply with the requirements of this Permit, this Permit Revision, the Act, the Rules, including without limitation that I will allow the Director to enter the Permit Area as required by the Permit and/or the Rules and/or as otherwise required by law.



Authorized Representative of the Permittee



Title



Company

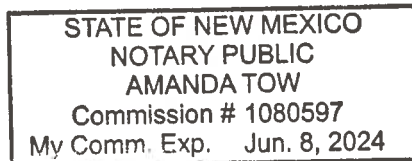
Subscribed and sworn to before me this 23 day of FEBRUARY, 2023



Notary Public

My Commission Expires


Jun 8, 2024



ORDER

NOW THEREFORE, IT IS HEREBY ORDERED that the Director approves Permit Revision 20-1 to the Little Rock Mine – Freeport-McMoRan Tyrone Inc., Permit No. GR007RE, located in Grant County, New Mexico. The approval is for increasing the Mine Permit Area; increasing the Open Pit Design Limit, renaming it the Mine Area Design Limit; and approval of the Updated Closeout Plan and financial assurance for the Little Rock Mine.

By Order of the Director, Mining and Minerals Division, Energy, Minerals and Natural Resources Department, of the State of New Mexico.

By: 
Mike Tompson, Acting Director
Mining and Minerals Division
Energy, Minerals and Natural Resources Department

Date: Feb. 24, 2023

Appendix A
Seeding Methods and Revegetation Standards

Seeding Methods

After placement of RCM on top surfaces and outcrops in accordance with this Permit Revision, the Permittee shall leave the seedbed in a roughened condition to reduce overland flow and promote the infiltration of water. This soil surface confirmation and the high rock fragment content of the topdressing may preclude the use of a drill seeder, which is the preferred methodology for reseeding. If drill seeding is not feasible, seed shall be broadcast and covered using a drag or another approved method. Certified weed-free straw or native grass mulch shall be applied at a rate of at least two tons/acre and stabilized using a tackifier emulsion or by crimping. Long-stem mulch is preferred over shorter materials. The mulch will be weed free and contain a minimum of viable seeds associated with the mulch source (e.g., barley or wheat seeds). Permittee shall design, construct, and maintain best management practices for erosion control according to nationally recognized standards of the U.S.D.A. Natural Resources Conservation Service or alternate equivalent standards.

Seed Mix

The primary reclamation seed mix proposed for the Little Rock Mine includes warm season grasses, perennial shrubs, and forbs. Changes in the seed mix may be required in association with availability issues and advancements in reclamation science. Consequently, a list of alternate or substitute species that might be used at the Little Rock Mine are included in Table 2. The seed mix was selected to provide early establishment of ground cover, erosion control, and diversity in grown forms. The seed mix is designed for application prior to the summer rains and the seeding should be completed by the end of June through mid-July.

A list of species for the seed mix is included in *Table 6-1: Proposed Interim Seed Mix and Rates for the Little Rock Mine Reclamation Sites* of the Revised Updated CCP, revised March 31, 2022:

Table 1. Primary seed mix and seeding rates for Tyrone

| Species | Life-Form | Duration | Seasonality | Rate^{ab} |
|---|------------------|-----------------|--------------------|--------------------------|
| Blue grama (<i>Bouteloua gracilis</i>) | Grass | Perennial | Warm | 0.50 |
| Side-oats grama (<i>Bouteloua curtipendula</i>) | Grass | Perennial | Warm | 1.5 |
| Black grama (<i>Bouteloua eriopoda</i>) | Grass | Perennial | Warm | 0.10 |
| Green sprangletop (<i>Leptochloa dubia</i>) | Grass | Perennial | Warm | 0.25 |
| Plains lovegrass (<i>Eragrostis intermedia</i>) | Grass | Perennial | Intermediate | 0.05 |
| Apache plume (<i>Fallugia pardoza</i>) | Shrub | Perennial | NA | 0.10 |
| Mountain mahogany (<i>Cercocarpus montanus</i>) | Shrub | Perennial | NA | 1.5 |
| Winterfat (<i>Eurotia lanata</i>) | Shrub | Perennial | NA | 1.0 |
| White prairie clover (<i>Dalea candida</i>) | Shrub | Perennial | NA | 0.25 |
| Globe mallow (<i>Sphaeralcea sp.</i>) | Forb | Perennial | NA | 0.1 |

| | | | | |
|------------------------------------|------|-----------|----|------------|
| Blue flax (<i>Linum lewisii</i>) | Forb | Perennial | NA | 0.25 |
| Total PLS (lbs/ac) | | | | 5.6 |

^aSeed mix and rates are subject to change based on future investigations and availability. Seed rate shall be doubled if broadcast seeding is performed instead of drill seeding.

^bRate is in pounds of pure live seed (PLS) per acre; Substitutions may change seeding rates.
 NA = not applicable.

Table 2. Alternate or substitute species list for the proposed seed mix

| Species | Life- Form | Duration | Seasonality |
|---|------------|-----------|-------------|
| Big bluestem (<i>Andropogon gerardii</i>) | Grass | Perennial | Warm |
| Sand bluestem (<i>Andropogon hallii</i>) | Grass | Perennial | Warm |
| Silver bluestem (<i>Andropogon saccharoides</i>) | Grass | Perennial | Warm |
| Purple three-awn (<i>Aristida purpurea</i>) | Grass | Perennial | Warm |
| Cane beardgrass (<i>Bothriochloa barbinodis</i>) | Grass | Perennial | Warm |
| Buffalograss (<i>Buchloe dactyloides</i>) | Grass | Perennial | Warm |
| Arizona cottontop (<i>Digitaria californica</i>) | Grass | Perennial | Warm |
| Tanglehead (<i>Heteropogon contortus</i>) | Grass | Perennial | Warm |
| Curly mesquite (<i>Hilaria belangeri</i>) | Grass | Perennial | Warm |
| Tobosa (<i>Pleuraphis mutica</i>) | Grass | Perennial | Warm |
| Mountain muhly (<i>Muhlenbergia montana</i>) | Grass | Perennial | Warm |
| Bush muhly (<i>Muhlenbergia porteri</i>) | Grass | Perennial | Warm |
| Deergrass (<i>Muhlenbergia rigens</i>) | Grass | Perennial | Warm |
| Ring muhly (<i>Muhlenbergia torreyi</i>) | Grass | Perennial | Warm |
| Spike muhly (<i>Muhlenbergia wrightii</i>) | Grass | Perennial | Warm |
| Vine mesquite (<i>Panicum obtusum</i>) | Grass | Perennial | Warm |
| Switchgrass (<i>Panicum virgatum</i>) | Grass | Perennial | Warm |
| Galleta grass (<i>Pleuraphis jamesii</i>) | Grass | Perennial | Warm |
| Little bluestem (<i>Schizachyrium scoparium</i>) | Grass | Perennial | Warm |
| Plains bristlegrass (<i>Setaria vulpiseta</i>) | Grass | Perennial | Warm |
| Indiangrass (<i>Sorghastrum nutans</i>) | Grass | Perennial | Warm |
| Alkali sacaton (<i>Sporobolus airoides</i>) | Grass | Perennial | Warm |
| Sand dropseed (<i>Sporobolus cryptandrus</i>) | Grass | Perennial | Intermed. |
| Giant dropseed (<i>Sporobolus giganteus</i>) | Grass | Perennial | Warm |
| Sacaton (<i>Sporobolus wrightii</i>) | Grass | Perennial | Warm |
| Western yarrow (<i>Achillea millefolium</i>) | Forb | Perennial | NA |
| Desert marigold (<i>Baileya multiradiata</i>) | Forb | Annual | NA |
| Chocolate flower (<i>Berlandiera lyrata</i>) | Forb | Perennial | NA |
| Desert mariposa lily (<i>Calochortus ambiguus</i>) | Forb | Perennial | NA |
| Lavenderleaf primrose (<i>Calylophus hartwegii</i>) | Forb | Perennial | NA |
| Indian paintbrush (<i>Castilleja integra</i>) | Forb | Perennial | NA |
| Downy paintbrush (<i>Castilleja sessiliflora</i>) | Forb | Perennial | NA |
| Lanceleaf tickseed (<i>Coreopsis lanceolata</i>) | Forb | Perennial | NA |
| Plains tickseed (<i>Coreopsis tinctoria</i>) | Forb | Perennial | NA |
| White prairie clover (<i>Dalea candida</i>) | Forb | Perennial | NA |

| | | | |
|--|-------|-----------|----|
| James' dalea (<i>Dalea jamesii</i>) | Forb | Perennial | NA |
| Aspen fleabane (<i>Erigeron speciosus</i>) | Forb | Perennial | NA |
| Blanket flower (<i>Gaillardia aristata</i>) | Forb | Perennial | NA |
| Firewheel (<i>Gaillardia pulchella</i>) | Forb | Perennial | NA |
| Bird's eyes (<i>Gilia tricolor</i>) | Forb | Perennial | NA |
| Desert verbena (<i>Glandularia gooddingii</i>) | Forb | Perennial | NA |
| Showy goldeneye (<i>Heliomeris multiflora</i>) | Forb | Perennial | NA |
| Scarlet gilia (<i>Ipomopsis aggregata</i>) | Forb | Perennial | NA |
| Gordon bladderpod (<i>Lesquerella gordonii</i>) | Forb | Perennial | NA |
| Arizona lupine (<i>Lupinus arizonicus</i>) | Forb | Perennial | NA |
| Perennial lupine (<i>Lupinus perennis</i>) | Forb | Perennial | NA |
| Bigelow's tansyaster (<i>Machaeranthera bigelovii</i> var. <i>bigelovii</i>) | Forb | Perennial | NA |
| Tansyleaf tansyaster (<i>Machaeranthera tanacetifolia</i>) | Forb | Perennial | NA |
| Wild Four 'O Clock (<i>Mirabilis multiflora</i>) | Forb | Perennial | NA |
| Lemon beebalm (<i>Monarda citriodora</i>) | Forb | Perennial | NA |
| Wild bergamot (<i>Monarda fistulosa</i>) | Forb | Perennial | NA |
| Hooker evening primrose (<i>Oenothera elata</i>) | Forb | Perennial | NA |
| Missouri evening primrose (<i>Oenothera macrocarpa</i>) | Forb | Perennial | NA |
| Sand penstemon (<i>Penstemon ambiguus</i>) | Forb | Perennial | NA |
| Scarlet bulger (<i>Penstemon barbatus</i>) | Forb | Perennial | NA |
| Firecracker penstemon (<i>Penstemon eatonii</i>) | Forb | Perennial | NA |
| Fendler's penstemon (<i>Penstemon fendleri</i>) | Forb | Perennial | NA |
| Palmer penstemon (<i>Penstemon palmeri</i>) | Forb | Perennial | NA |
| Desert penstemon (<i>Penstemon pseudospectabilis</i>) | Forb | Perennial | NA |
| Superb penstemon (<i>Penstemon superbus</i>) | Forb | Perennial | NA |
| Wandbloom penstemon (<i>Penstemon virgatus</i>) | Forb | Perennial | NA |
| Bluebells (<i>Phacelia campanularia</i>) | Forb | Perennial | NA |
| Desert bluebells (<i>Phacelia crenulata</i>) | Forb | Perennial | NA |
| Mexican hat (<i>Ratibida columnifera</i>) | Forb | Perennial | NA |
| Blackeyed Susan (<i>Rudbeckia hirta</i>) | Forb | Perennial | NA |
| Silver groundsel (<i>Senecio longilobus</i>) | Forb | Perennial | NA |
| Desert senna (<i>Senna covesii</i>) | Forb | Perennial | NA |
| Canada goldenrod (<i>Solidago canadensis</i>) | Forb | Perennial | NA |
| Desert globemallow (<i>Sphaeralcea ambigua</i>) | Forb | Perennial | NA |
| Scarlet globemallow (<i>Sphaeralcea coccinea</i>) | Forb | Perennial | NA |
| Gooseberry globemallow (<i>Sphaeralcea grossulariifolia</i>) | Forb | Perennial | NA |
| Greenthread (<i>Thelesperma filifolium</i>) | Forb | Perennial | NA |
| Parry's agave (<i>Agave parryi</i>) | Shrub | Perennial | NA |
| False indigo-bush (<i>Amorpha fruticosa</i>) | Shrub | Perennial | NA |
| White sagebrush (<i>Artemisia ludoviciana</i>) | Shrub | Perennial | NA |
| Fourwing saltbush (<i>Atriplex canescens</i>) | Shrub | Perennial | NA |
| Canyon bricklebrush (<i>Brickellia californica</i>) | Shrub | Perennial | NA |
| Fairy duster (<i>Calliandra eriphylla</i>) | Shrub | Perennial | NA |
| Desert willow (<i>Chilopsis linearis</i>) | Shrub | Perennial | NA |

| | | | |
|---|-------|-----------|----|
| Feather dalea (<i>Dalea formosa</i>) | Shrub | Perennial | NA |
| Sotol (<i>Dasyilirion wheeleri</i>) | Shrub | Perennial | NA |
| Rubber rabbitbrush (<i>Erimaceria nauseosus</i>) | Shrub | Perennial | NA |
| Virgin river brittlebush (<i>Encelia virginensis</i>) | Shrub | Perennial | NA |
| Wolfberry (<i>Lycium pallidum</i>) | Shrub | Perennial | NA |
| Creeping Oregon grape (<i>Mahonia repens</i>) | Shrub | Perennial | NA |
| Beargrass (<i>Nolina microcarpa</i>) | Shrub | Perennial | NA |
| Skunkbush sumac (<i>Rhus trilobata</i>) | Shrub | Perennial | NA |
| Canyon gooseberry (<i>Ribes leptanthum</i>) | Shrub | Perennial | NA |
| NM locust (<i>Robinia neomexicana</i>) | Shrub | Perennial | NA |
| Catclaw acacia (<i>Senegalia greggii</i>) | Shrub | Perennial | NA |
| Whitethorn acacia (<i>Vachellia constricta</i>) | Shrub | Perennial | NA |
| Broadleaf yucca (<i>Yucca baccata</i>) | Shrub | Perennial | NA |
| Soap tree yucca (<i>Yucca elata</i>) | Shrub | Perennial | NA |
| Spanish bayonet (<i>Yucca glauca</i>) | Shrub | Perennial | NA |

NA = not applicable.

**Table 3. Functions and Attributes of the Primary Plant Species
for the Tyrone Mine Reclamation Sites**

| Species | Character ^a | Attributes and Function |
|---|------------------------|--|
| Blue grama (<i>Bouteloua gracilis</i>) | N,P,W,G | Sod and bunch grass providing ground cover and forage |
| Side-oats grama (<i>Bouteloua curtipendula</i>) | N,P,W,G | Bunch grass providing ground cover and forage |
| Green sprangletop (<i>Leptochloa dubia</i>) | N,P,W,G | Erect bunchgrass; aggressive short-lived nurse plant with forage value |
| Black grama (<i>Bouteloua eriopoda</i>) | N,P,W,G | Bunch grass providing ground cover and forage |
| Plains lovegrass (<i>Eragrostis intermedia</i>) | N,P,I,G | Bunch grass providing ground cover and early spring forage |
| Apache plume (<i>Fallugia pardoza</i>) | N,P,S | Mid-height shrub providing browse, cover, and erosion control |
| Mountain mahogany (<i>Cercocarpus montanus</i>) | N,P,S | Mid-height to tall shrub providing browse and cover |
| Winterfat (<i>Eurotia lanata</i>) | N,P,HS | Low shrub providing winter browse |
| White prairie clover (<i>Dalea candida</i>) | N,P,F | Early season legume providing forage and ground cover |
| Globemallow spp. (<i>Sphaeralcea spp.</i>) | N,P,F | Persistent mid-height forb providing browse |
| Blue flax (<i>Linum lewisii</i>) | N,P,F | Persistent forb providing winter and spring forage for wildlife |

^aN = Native

I = Intermediate season

P = Perennial

W = Warm season

G = Grass

S = Shrub

HS = Half shrub

F = Forb

Vegetation Success Standards and Success Monitoring

Canopy Cover

The numerical standard for canopy cover shall be 70% of the reference area to within a 90% statistical confidence for Existing Units and 90% of the reference area to within a 90% statistical confidence for New Units. The reference area to be used for the vegetation success standard for the Little Rock Mine is shown in Figure 1 of *Interim Technical Standards for Revegetation Success Tyrone and Little Rock Mines* report, dated November 30, 1999.

Shrub Density

The standard for shrub density shall be 60% of the shrub density of the reference area to within an 80% statistical confidence for Existing Units and 80% of the shrub density of the reference area to within an 80% statistical confidence for New Units.

Plant Diversity

The plant diversity standard is shown below and shall be utilized for the Little Rock Mine. These standards for canopy cover, shrub density, and plant diversity shall be applicable to the naturally revegetated areas as well.

| Class | Seasonality | Number | Minimum Occurrence (% Cover) |
|-----------------|-------------|--------|------------------------------|
| Perennial Grass | Warm | 3 | 1.0 |
| Perennial Shrub | NA | 2 | 1.0 |
| Perennial Forbs | NA | 2 | 0.1 |

NA = not applicable.

The diversity standard is approved on the condition that the Permittee shall provide an evaluation of the diversity standard for MMD review by **December 31, 2023**.

Revegetation Success Monitoring

The reclaimed and reference areas shall be monitored periodically after the final grading and the initial establishment of vegetation on the reclaimed lands. Regular inspections will be made to determine the initial success of the seeding. The Permittee shall conduct a qualitative vegetation monitoring of both volunteer revegetation and re-seeded areas during the third year after seeding. Results of the vegetation monitoring shall be provided to MMD. The Permittee shall inter-seed or re-seed those areas that have volunteer vegetation as well as other areas, if necessary. Quantitative monitoring of the reclaimed and reference areas shall be performed again in year 6 after reseeding, and then at least 2 years during the last 4 years starting no sooner than year eight prior to application for release of financial assurance. Revegetation monitoring shall include, at a minimum, survey of canopy cover, plant diversity, and woody stem density. The revegetation monitoring shall be conducted to meet statistical adequacy for the monitoring conducted during the 2 years of the last 4 years prior to release of financial assurance.

Appendix B

Figure 2-1 (from the Updated CCP)

