

State of New Mexico  
Energy, Minerals and Natural Resources Department

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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**

March 29, 2021

Mr. Erich Bower, President, General Manager  
Freeport-McMoRan Tyrone Inc.  
P.O. Box 571  
Tyrone, New Mexico 88065

**RE: Transmittal of Documents: Permit Revision 09-1 to Permit No. GR010RE and Certificate of Face Amount Adjustment to the Third-Party Guarantee, Tyrone Mine**

Dear Mr. Bower:

The New Mexico Mining and Minerals Division ("MMD") has approved Revision 09-1 to Permit No. GR010RE; for the updated closeout plan for the Tyrone Mine. In addition, MMD and the New Mexico Environment Department ("NMED") have approved the Certificate of Face Amount Adjustment to the Third-Party Guarantee, dated February 22, 2021. A copy of each of these documents is enclosed with this letter.

If you have any questions in this matter, please feel free to contact me at 505-216-8945 or at David.Ohori@state.nm.us.

Sincerely,

*David Ohori*

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

Enclosures

cc: Thomas Shelley, Reclamation Manager, Freeport-McMoRan Tyrone Inc.  
Brian McGill, Environmental Manager, Freeport-McMoRan Tyrone Inc.  
Holland Shepherd, Program Manager, MARP  
Anne Maurer, Mining Act Team Leader, NMED Ground Water Quality Bureau (GWQB)  
Keith Ehlert, Mining Environmental Compliance Section, NMED GWQB  
Allyson Siwik, Executive Director, Gila Resources Information Project  
Mine File (GR010RE)

**REISSUED PERMIT NO. GR010RE**  
**PERMIT REVISION 09-1: UPDATED SITE WIDE CLOSURE/CLOSEOUT PLAN**  
**TYRONE MINE**  
**EXISTING MINING OPERATION**

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

This Permit No. GR010RE is reissued under Permit Revision 09-1 (“Permit” or “Revision 09-1”) 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”)

(“Permittee”) for the Tyrone Mine, located in Grant County, New Mexico, whose mailing address is:

P.O. Box 571  
Tyrone, NM 88065

This reissued Permit No. GR010RE/Permit Revision 09-1:

1. Approves and incorporates an updated Closeout Plan and Cost Estimate for the Tyrone Mine, Permit No. GR010RE.
2. Approves the financial assurance (“FA”) in the total Net Present Value (“NPV”) amount of \$176,326,429 held in a Cash Trust, Collateral, Surety Bonds, and through a Third-Party Guarantee. An Irrevocable Standby Letter of Credit is held jointly with the U.S. Bureau of Land Management (“BLM”) in the current cost amount of \$170,874 for the Copper Mountain South Pit Expansion Area. The total FA retained is \$176,497,303.
3. Supplants and supersedes earlier modifications related to Permit No. GR010RE. To the extent that the provisions and requirements of this Revision 09-1 conflict with the provisions and requirements of the Modifications identified below, the provisions and requirements of this Revision 09-1 shall govern.
  - a. Modification 00-1, a change to the permit area to incorporate the Copper Mountain Leach Stockpile.
  - b. Modification 04-1, a modification to the language allowing approval of reclamation plans less than 180 days after they are submitted, changes the word “Final” to “Detailed” in the implementation of reclamation plans, and adds the Waste Management Building to the Industrial Post-Mining Land Use buildings.

- c. Modification 04-2, a change to the reclamation schedule of Revision 01-1.
- d. Modification 05-1, elimination of the requirement for test plot studies on uncovered tailing impoundment slopes and provides discretion to MMD for requiring fertilizer application to covered areas.
- e. Modification 05-2 allows for pre-grading of tailing impoundments and stockpiles prior to approval of detailed stormwater plans.
- f. Modification 05-3, approval of a partial FA release of \$17,408,583 for excavation of the 1C stockpile from the Oak Grove Draw and adjusts the FA eliminating \$15,049,336 required for New Mexico Gross Receipts Tax. The total FA required is reduced from \$270,775,013 to \$238,317,094.
- g. Modification 06-1, a requirement for submission of an updated closeout plan by April 12, 2009, requires paper and electronic copies of submittals, and changes the approved Permit area and design limit maps.
- h. Modification 06-2, a change to the timing for deer pellet counts and bird diversity studies.
- i. Modification 06-3, an expansion of the alternate plant species list for reclamation.
- j. Modification 06-4, the replacement of a surety bond with an ILOC for financial assurance.
- k. Modification 06-5, a change to the amount of FA allocated to the collateral, third-party guarantee and the ILOC, while leaving the amount of FA allocated to the cash trust unchanged. The total FA required remains \$238,317,094.
- l. Modification 06-6, approval of a partial FA release of \$20,398,973 for reclamation work at the No. 3 and 3X tailing impoundments, the Burro Mountain Tailing Unit, the No. 1C stockpile, and the demolition of the mill and concentrator unit. The total FA required is reduced from \$238,317,094 to \$217,918,121. The \$20,398,973 reduction in the FA is from the third-party guarantee.
- m. Modification 07-1, approval of a partial FA release of \$7,901,924 for reclamation at the No.2 and 3X tailing impoundments, changes the third-party guarantee from \$136,185,617 to \$124,774,693, changes the cash trust floor amount from \$22,000,000 to \$25,500,000, and adds the \$170,874 ILOC for the Copper Mountain South Pit Expansion to the total FA. Additionally, the Permittee's name is changed from Phelps Dodge Corporation to Freeport-McMoRan Copper and Gold, Inc. The total FA required is adjusted to \$210,178,071.
- n. Modification 08-1, approval of a partial FA release of \$22,243,040 for reclamation at the No. 1, 1A, 1X and the No. 2 tailing impoundments, changes the third-party guarantee from

\$124,774,693 to \$101,031,653 and increases the cash trust floor amount from \$25,500,000 to \$27,000,000. The total FA required is adjusted from \$210,178,071 to \$187,935,031.

- o. Modification 09-2, a change to the FA by replacing a \$31,780,518 ILOC with a \$25,000,000 surety bond and a \$6,780,518 surety bond.
- p. Modification 09-3, approval of a partial FA release of \$2,204,526 for reclamation of the No. 1C stockpile. The third-party guarantee is changed from \$101,031,653 to \$98,827,127 and the total FA is adjusted from \$187,935,031 to \$185,730,505.
- q. Modification 10-1, a change to the post-reclamation vegetation monitoring requirements *(as part of this reissued Permit No. GR010RE, Revision 09-1)*.
- r. Modification 12-1, elimination of the requirement to study the mobility of metals through the cover profile from the test plot studies.
- s. Modification 12-2, replacement of 130 acres of Warm Springs ranch collateral with \$18,850 placed into the cash trust.
- t. Modification 12-3, approval of a partial FA release of \$7,297,277 for reclamation of the No. 1C/7A stockpile and costs for additional studies required by Section 8 and Conditions 9.D, 9.L.2, 9.L.4, 9.L.5 and 9.L.6 of Revision 01-1. The third-party guarantee is changed from \$98,827,127 to \$91,529,850 and the total FA is adjusted from 185,730,505 to \$178,433,228.
- u. Modification 14-1, approval of the No. 9AX stockpile and closeout plan, increasing the third-party guarantee of the FA by \$1,071,764 to \$92,601,614 and the total FA to \$179,504,992.
- v. Modification 15-1, modification to the test-plot workplan to eliminate the requirement for an upward migration study.
- w. Modification 16-1, approval of the increase of the cash trust floor amount from \$27,018,850 to \$48,200,000, approval of the 2014 collateral re-appraisals and increase of the collateral from \$27,933,136 to \$ \$48,549,200, and the reduction in the third-party guarantee from \$92,601,614 to \$50,804,400. The total FA is \$179,504,992
- x. Modification 16-2, a change in the FA to replace the \$25,000,000 surety bond issued by the U.S. Specialty Insurance Company with a \$25,000,000 surety bond issued by the Arch Insurance Company.
- y. Modification 16-3, a change to the Guarantor of the third-party guarantee from Freeport-McMoRan Inc. to Freeport Minerals Corporation.

- z. Modification 17-1, changes to the FA cash trust, collateral, third-party guarantee, and surety bond (*as part of this reissued Permit No. GR010RE, Revision 09-1*).
  - aa. Modification 19-1, approval of the CSG stockpile construction and reclamation plan.
4. Replaces or incorporates all previously approved Revisions to Permit No. GR010RE. To the extent that the provisions and requirements of this Revision 09-1 conflict with the provisions and requirements of the Revisions identified below, the provisions and requirements of this Revision 09-1 shall govern:
- a. Revision 01-1, original permit after incorporation of the Closeout Plan.
  - b. Revision 03-1, incorporating the closeout plan and New Unit standards for the Copper Mountain South Pit Expansion, approving a \$170,874 irrevocable letter of credit (“ILOC”) as FA for the Copper Mountain South Pit Expansion.
  - c. Revision 10-1, re-approval of the conditional waiver approved in 2004 and increasing the conditional waiver area for the Main open pit and the Copper Mountain open pit.

### **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:

CQA	Construction Quality Assurance
East Mine Area	No. 1 stockpile and Burro Mountain Tailing Impoundment. See <i>Plate 1: Tyrone Mine Areas and Facilities Map</i> in the CCP Update, dated July 30, 2019.
Interbench Slope	The outslope ground surface between terrace benches.
Mangas Valley Tailing Area	The reclaimed tailing impoundments (with partial FA released) including the Reclaimed 1 Tailing Impoundment, Reclaimed 1A Tailing Impoundment, Reclaimed 1X Tailing Impoundment, Reclaimed 2 Tailing Impoundment, Reclaimed 3 Tailing Impoundment, and Reclaimed 3X Tailing Impoundment; North Pond, Pond 12, Gila conglomerate borrow areas, tailing launder, Red Rock diversion, stormwater diversions and detention ponds, tailing facilities and maintenance areas, and a portion of

the Bill Evans pipeline. See *Plate 1: Tyrone Mine Areas and Facilities*, and *Plate 2: Mangas Valley Tailing Area Characteristics and Facilities* in the CCP Update, dated July 30, 2019. For the Gila conglomerate borrow areas see: *Borrow Pit Investigation and Status Report*, Permit No. GR010RE, Tyrone Mine, dated April 2, 2018, *Figure 1, Tyrone Mine Borrow Areas Overall Plan View*; *Figure 2, Tyrone South Mangas and Mine Borrow Areas Plan View*; *Figure 3, Tyrone Middle Mangas Borrow Areas Plan View*; and *Figure 4, Tyrone North Mangas Borrow Areas Plan View*.

#### Mangas Valley

**Tailing Repositories** The reclaimed tailing repositories including the North Main, North Main Satellites, Laney Canyon 1, 2 and 3, North Main 1, 2, 3, 4 and 5, USFS North Main, MS-10, Mangas Creek (West), Wind Canyon, South Main, Main USFS, South Red Rock A & B, Red Rock 1, 2, 3, 4 and 5, Mangas East. See *Figure 2, Approximate Extent of No. 3 Tailing Spill and Mangas Valley Tailing Repositories*, dated April 26, 2005.

#### Mine Area

All of the Tyrone Mine facilities which include, but is not limited to, the Main Pit, West Main III Pit, West Main II Pit, Valencia Pit, Savanna Pit, Gettysburg Pit, Copper Mountain Pit, South Rim Pit, San Salvador Pit, leach stockpiles, waste rock stockpiles, reclaimed stockpiles, Copper Mountain reclamation area, SX/EW plant, reservoirs, pumping stations, seepage impoundments, storm water detention ponds, reclaimed mill and concentrator facilities, mine facilities and maintenance area, general offices, and former precipitation plant. See *Plate 1: Tyrone Mine Areas and Facilities Map* in the CCP Update, dated July 30, 2019.

NMAC New Mexico Administrative Code

NMED New Mexico Environment Department

NMSA New Mexico Statutes Annotated

OPSDA Open Pit Surface Drainage Area. Defined by §20.6.7.7.B(42) NMAC as “the area in which storm water drains into an open pit and cannot feasibly be diverted by gravity outside the pit perimeter, and the underlying ground water is hydrologically contained by pumping or evaporation of water from the open pit.” In the context of this permit, the OPSDA is the post closeout OPSDA. See *Plate 1, Tyrone Mine Areas and Facilities, Open Pit Surface Drainage Area (based on 2014 mine configuration)* in the CCP Update, dated July 30, 2019.

**Pit Perimeter** The physical edge of the open pit. The interior area of the pit perimeter of

the Main Pit, West Main II Pit, Savanna Pit, Gettysburg Pit, Valencia Pit, West Main III Pit, and Copper Mountain Pit open pits are waived from the MMD requirement to meet a Self-Sustaining Ecosystem (SSE) or Post-Mining Land Use (PMLU). The 2020 open pit waived areas (including waived portions of stockpiles) are depicted on *Map 1: 2020 Pit Waiver Evaluation* within Tyrone Stockpile Open Pit Waiver Update for 2020; Mining Act Permit No. GR010RE, dated August 26, 2020, prepared by Tyrone.

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, process water make-up, seepage collection, emergency water management, pregnant leach solution (“PLS”) collection. See <i>Figure 2-11, Surface Impoundments in the Mining Area and East Mine Area</i> , and <i>Figure 2-12, Surface Impoundments in the Southern Portion of Mangas Valley</i> of the CCP Update dated July 30, 2019. Reservoirs do not include tailings impoundments.
RCM	Reclamation Cover Material is defined as material sourced from the Gila Conglomerate, comprised of mid-Miocene and mid-Pleistocene continental alluvium and associated fan deposits, recent alluvium, talus and existing soils as depicted in <i>Figure 2-15: Generalized Geologic Map of the Tyrone Mine Area</i> of the CCP Update dated July 30, 2019. Additional overburden materials such as Precambrian granite may be approved as RCM depending on the results of the USNR test plot study.
SSE	Self-Sustaining Ecosystem. Defined in §19.10.1.7.S(2) NMAC.
Stockpile	All leach ore stockpiles, and other rock piles associated with mining disturbances at the Tyrone Mine Facility. Leach ore stockpiles are those that have been leached, are currently being leached or have been placed in a pile for the purpose of being leached. These include but are not limited to the 1A Leach, 1B Leach, 2A Leach, 2B Leach, 2 Leach (Area 1 and 2), 3A Leach, 6A Leach, 6B Leach, 6C Leach, 6D Leach, and 7B Leach stockpiles, Valencia In-pit Leach stockpile, and the former Copper Mountain Leach Stockpile, and Copper Mt. Reclamation Area. Waste rock piles include non-leach material from the Main open pit and the other open pits. These include the Reclaimed (with partial FA released) 1C Waste, 2B Waste, 3B Waste, Reclaimed 7A Waste, 7B Waste, 7C Waste, 8B Waste, 8C Waste, and the Gettysburg Waste stockpile (permitted but not constructed). RCM used or stockpiled to reclaim mine facilities. These include CSG Waste stockpile and the 5A Waste stockpile. The 9A Waste and 9AX Waste stockpiles are

composed of Precambrian granite excavated from the Little Rock Mine and are currently being evaluated as RCM at the USNR test plots. Stockpiles that have been partially or fully reclaimed include the Reclaimed 1 Leach, Reclaimed 1C Waste, and Reclaimed 7A Waste. See *Plate 1: Tyrone Mine Areas and Facilities Map* in the CCP Update, dated July 30, 2019.

Stockpile and Open  
Pit Conditional  
Waiver Area  
(Waiver Area)

The Main, West Main III, West Main II, Valencia, Savanna, Gettysburg and Copper Mountain Pits; the 6A Leach and Valencia In-Pit Leach stockpiles; the 8A Waste, 8C Waste, and Gettysburg Waste stockpiles; the interior slopes of the 1A Leach, 1B Leach, 2B Leach, 2 Leach (Area 1 and 2), 6B Leach, 6C Leach, and 6D Leach stockpiles; the interior slopes of the 3B Waste, and western portion of the 5A Waste stockpile that are located outside of the pit perimeter but inside the OPSDA that are covered by a conditional MMD waiver area updated in the *Tyrone Stockpile Open Pit Waiver Update for 2020*; Mining Act Permit No. GR010RE, dated August 26, 2020 have been granted a conditional waiver from the requirement of achieving an SSE or PMLU as required by §19.10.5.507.B NMAC.

Tailings  
Impoundments

All the tailings impoundments owned and operated by Freeport-McMoRan Tyrone Inc. located in Grant County, New Mexico, which are part of the Tyrone Mine. Tailing Impoundments include the Reclaimed 1 Tailing Impoundment, Reclaimed 1A Tailing Impoundment, Reclaimed 1X Tailing Impoundment, Reclaimed 2 Tailing Impoundment, Reclaimed 3 Tailing Impoundment, and Reclaimed 3X Tailing Impoundment and the Reclaimed Burro Mountain Tailing Impoundment (with partial FA released). See *Plate 1: Tyrone Mine Areas and Facilities* in the CCP Update, dated July 30, 2019.

**Section 1. STATUTES AND RULES**

- A. This Permit is issued under authority of 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 2. PERMIT REVISION PACKAGE**



A. The Permit Application Package for Revision 09-1 (“PAP 09-1”) consists of:

1. *Tyrone Mine Closure/Closeout Plan Update* (“CCP 2007 Update”), dated October 11, 2007, prepared by Golder Associates on behalf of Freeport-McMoRan Tyrone Inc.;
2. [Tyrone] *Mine Permit GR010RE Revision Application - Closeout Plan Update* including updated figures, application fee, and public notice documentation, dated April 9, 2009;
3. *Reclamation Cost Estimate Update, GR010RE, DP-1341 Operator Factor and Swell Factor*, including proposed Production Factors Table, dated September 5, 2012;
4. *Tyrone Mine Closure/Closeout Plan Update* (“CCP 2013 Update”), dated July 15, 2013, prepared by Golder Associates on behalf of Freeport-McMoRan Tyrone Inc.;
5. *Administratively Complete Determination for the Application to Revise Permit No. GR010RE (Revision 09-1)*, Tyrone Mine Closure/Closeout Plan Update, dated May 12, 2014;
6. Freeport-McMoRan Tyrone Inc., *Tyrone Mine Closure/Closeout Plan Update, Permit Nos. GR010RE and DP-1341*, dated June 11, 2015, with Tyrone responses to MMD and NMED comments and revisions to the updated Closure/Closeout Plan;
7. Freeport-McMoRan Tyrone Inc., *Tyrone Mine Closure/Closeout Plan Update, Permit Nos. GR010RE and DP-1341; Response to Comments*, dated April 13, 2018;
8. *Freeport-McMoRan Chino Mines Company – Continental Mine [Chino and Tyrone Mine] Financial Assurance, Permit GR002RE [GR010RE] Discharge Permit 1403*, dated January 11, 2019;
9. Freeport-McMoRan Tyrone Inc., *Tyrone Mine Closure/Closeout Plan Earthwork Cost Estimate Update, Permit Nos. GR010RE and DP-1341*, dated May 6, 2019.
10. *Tyrone Mine Closure/Closeout Plan Update* (“CCP Update”), dated July 30, 2019, prepared by Golder Associates on behalf of Freeport-McMoRan Tyrone Inc.;
11. Freeport-McMoRan Tyrone Inc., *Tyrone Mine Closure/Closeout Plan Update, Permit GR010RE, Response to Comments” for Revision 09-1 to Permit No. GR010RE*, dated January 6, 2020;
12. *Freeport McMoRan Chino Mines Company Permits GR009RE and DP-1340 (Chino Mine) and GR002RE and DP-1403 (Continental Mine); Freeport-McMoRan Tyrone Inc. Permits GR010RE and DP-1341*, dated January 23, 2020;

13. *Seed Mix and Rates for the Tyrone Mine Reclamation Sites*, dated February 2020, prepared by Golder Associates on behalf of Freeport-McMoRan Tyrone Inc.;
14. Freeport-McMoRan Tyrone Inc., *2013 Tyrone Mine Closure/Closeout Plan Update* (“CCP 2020 Update”), dated April 29, 2020;
15. Electronic mail, *Re: Tyrone Mine Updated CCP Cost Estimate*, dated July 9, 2020, with updated Table 1, Appendix C Reclamation Cost Basis Summary Report, and updated Tables 4-1, 5-1, and 7-3;
16. Electronic mail, *Re: Tyrone Mine Updated CCP Cost Estimate*, dated July 9, 2020, with updated Figures 2-1, 2-2, 2-7, 2-11, 2-12, and 7-1;
17. Electronic mail, *Re: Tyrone Mine Updated CCP Cost Estimate*, dated July 9, 2020, with updated Plate 1, Plate 3, and Plate 4;
18. *Tyrone Stockpile Open Pit Waiver Update for 2020*; Mining Act Permit No. GR010RE, dated August 26, 2020;
19. Freeport-McMoRan Tyrone Inc., Mining Act Permit No. GR010RE and Discharge Permit DP-1341, *Closure Closeout Plan and Reclamation Cost Estimate*, dated December 4, 2020, including a Net Present Value calculation and a FA proposal;
20. Third Party Guarantee Certificate of Face Value Adjustment in the amount of \$40,396,711 dated February 22, 2021, and fully executed (final signature) on March 25, 2021.
21. Electronic mail, *Tyrone Permit Rev. 09-1 Vegetation*, dated February 23, 2021, with Table 6.1 Seed Mix and Rates.

**Section 3. PERMIT AREA**

- A. The permit area is delineated in PAP 09-1 in *Figure 2-1: Tyrone Mine Areas and Facilities*. The permit area encompasses portions of the following areas in Grant County, New Mexico (NMPM):
1. Township 18 South, Range 15 West: Sections 17, 18, 19, 20, 21, 28, 29, and 30;
  2. Township 19 South, Range 15 West: Sections 3, 4, 5, 8, 9, 10, 11, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, and 28;
  3. Township 19 South, Range 14 West: Sections 19, 20, 29, and 30.

**Section 4. DESIGN LIMITS**

The Design Limits or Permit Area Boundaries for the Mangas Valley Tailings Area, the Mine Area, and the East Mine Area Design Limits are identified on *Plate 1: Tyrone Mine Areas and Facilities* within the CCP 2020 Update.

**Section 5. FINDINGS OF FACT**

- A. The PAP 09-1 and CCP 2020 Update 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) NMAC, 19.10.5.506.J(1-6) NMAC.
- B. The Permittee has paid the permit revision fee of \$7,500.00 as required by §19.10.2.201 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 has been reviewed in accordance with §§19.10.5.505 and 19.10 5.506 NMAC and has been processed as a revision.
- G. Public participation requirements including public notice and an opportunity for public hearing were met in accordance with §19.10.9 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 April 18, 2014.
- J. As required by §19.10.5.505.B(3) NMAC, the Director has consulted with the applicable state agencies including State Forestry Division, New Mexico Department of Game and Fish, State Historic Preservation Division, NMED, and the Office of the State Engineer.
- K. As required by §19.10.5.505.B(3) NMAC, the Director has consulted with the following tribal entities: Fort Sill Apache Tribe, Hopi Tribe, Mescalero Apache Tribe, Navajo Nation, Pueblo of Isleta, and the White Mountain Apache Tribe.
- L. As required by §19.10.5.505.C NMAC, the application for permit revision was in a format acceptable to the Director.
- M. 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”) and the requirements of paragraphs 1, 2, 4, 5, and 6 of subsection H of Section 69-36-7 of the Act.
- N. 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.
- O. The disturbed areas within the permit area and affected areas outside of the permit area will be reclaimed to achieve a self-sustaining ecosystem appropriate for the life zone of the surrounding areas following closure, except those areas designated as industrial PMLU or granted a waiver pursuant to §19.10.5.507.B NMAC.
- P. NMED Written Determination dated March 22, 2021, and signed by the NMED Cabinet Secretary on March 23, 2021, that Freeport-McMoRan Tyrone Inc. has demonstrated that the activities proposed or authorized for the Tyrone 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. GR010RE and associated state and federal environmental permits.
- Q. As required by §19.10.9 NMAC, a request for public hearing on Revision 09-1 from the Gila Resources Information Project (“GRIP”) was received on October 28, 2013. GRIP withdrew the request for a public hearing on August 4, 2020 and MMD held a virtual public meeting on August 5, 2020.
- R. As required by §19.10.5.506.G NMAC the CCP 2020 Update was deemed approvable and the Permittee was notified of the approvable determination in a letter dated November 4, 2020.

*Financial Assurance and Instrument*

- S. The Permittee has provided satisfactory financial assurance to complete the Closeout Plan in the aggregate amount of **\$176,497,303** [\$176,326,429 after adjustment to reflect Net Present Value (“NPV”) plus \$170,874 at current cost]; as required by §19.10.5.506.J(2) NMAC. The financial assurance for reclamation of the Tyrone Mine is in the form of:
1. Cash trust in the minimum amount of \$55,600,000.
  2. Third Party Guarantee, issued by Freeport Minerals Corporation, in the amount of \$40,396,711.
  3. Surety Bond No. SU1142397, issued by the Arch Insurance Company, in the amount of \$25,000,000.
  4. Surety Bond No. 022025842, issued by the U.S. Specialty Insurance Company, in the amount of 6,780,518.
  5. Real Estate Collateral in the amount of \$48,549,200.
  6. Irrevocable Standby Letter of Credit in the amount of \$170,874 jointly held with the U.S. Bureau of Land Management (“BLM”). Pursuant to Revision 03-1 of this Permit, for earthwork/recontouring and revegetation/stabilization of Copper Mountain South Pit Expansion Area, pending an approved FA release. FA for the remaining O&M (including but not limited to: revegetation and earthwork maintenance) is covered in the approved FA instruments totaling \$176,326,429 without the letter of credit.

In determining the appropriate cost estimate and NPV for the Tyrone Mine financial assurance instrument, the Division used and accepted data and a methodology that are acceptable for this Revision 09-1.

**Section 6. COMPLIANCE REQUIREMENTS**

- A. The Permittee shall conduct mining and reclamation operations only as described in the approved PAP 09-1, this Permit or any revisions or modifications approved by the Director, as required by §19.10.5.505 NMAC.
- B. This permit revision 09-1 is issued pursuant to Section 69-36-1 et. seq. NMSA 1978 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 Copper Mountain South Pit Expansion Area is partially on land managed by the BLM, Las Cruces Field Office, 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 7. 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 8. 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. The 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 9. 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. The conditions specified in this Permit are necessary to reclaim the Permit Area to the conditions that allow for establishment of the designated PMLUs of wildlife habitat and industrial uses.

### **C. 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.

**D. Mine Area Stockpiles (Partially or Fully) Located Outside of the OPSDA and Outside the Conditional Waiver Area—Subject to Existing Unit Reclamation Standards (§19.10.5.507.A NMAC)**

The following conditions apply to the following stockpiles:

- 2A Leach, 3A Leach, 7B Leach.
- All except the interior slopes of the 1A Leach, 1B Leach, 1C Waste (North side), 2A Leach, 2B Leach, 2 Leach (Area 1 and 2), 6B Leach, 6C Leach, and 6D Leach.
- 2B Waste, 7B Waste, 7C Waste, 9A Waste and 9AX Waste.
- All except the western portion of the 5A Waste.
- All except the interior slopes of the 3B Waste Rock Stockpile.
- Reclaimed stockpiles are the 1 Leach, 1C Waste, 7A Waste and the Copper Mountain Reclamation Area

**1. Surface Shaping and Stormwater Management**

- a. Reclamation design shall conform with Section 5.2.1 (“Stockpiles Located Outside the Revised OPSDA and Revised Conditional Waiver Area”) and *Table 4-2: Summary of Key Design Criteria for Facilities to be Closed* of the CCP 2020 Update and shall meet the standards of §19.10.5.507.A NMAC (“Existing Unit Reclamation Standards”).
- b. Permittee shall regrade the inter-bench slopes to a minimum of 3.0H:1.0V, or 2.5H:1.0V for stockpiles adjacent to a designated Surface Water of the State or a highway.
- c. Inter-bench slope lengths shall not exceed 200 feet for all stockpiles with 3.0H:1.0V interbench slopes.



- d. Terrace bench widths shall be a minimum of 15 feet. Bench longitudinal slopes shall be no greater than 5%. Bench cross slopes and channels shall be between 1% and 5%.
- e. Permittee shall regrade all stockpiles in a manner that promotes positive drainage to the exterior perimeter of the stockpiles where practically feasible and approved by MMD, and eliminates, to the extent practicable, ponding on the top surface and final cover surfaces. Permittee shall construct the top surface to a minimum final grade of between 1% and 5% to direct stormwater to the designed areas/locations as approved by MMD.
- f. Surface water conveyance channels shall be constructed where necessary to adequately direct surface water off the covered stockpile surfaces. All post-closeout, permanent water conveyances and channels shall be designed and constructed to convey the peak flow generated by the 100-year, 24-hour storm event, at a minimum. Surface water conveyance channels and other surface water control structures shall be constructed with appropriately armoring, to withstand the peak flow generated by the 100-year, 24-hour storm event, at a minimum, or an alternate criterion approved by MMD in consultation with other state or federal agencies.
- g. Permittee shall regrade all stockpile outcrops located outside of the OPSDA to facilitate covering and revegetation of the outcrops at closeout of the mine. The boundary delineation of the OPSDA and its use to determine areas subject to reclamation may be redefined based on future studies as required by NMED or as otherwise determined by NMED. **[Attached Figure 1: Tyrone Mine Areas and Facilities]** (from 2013 Tyrone Mine Closure/Closeout Plan Update, dated April 29, 2020).
- h. The portions of the interior slopes of the 1A Leach, 1B Leach, 2 Leach (Area 1 and 2), 2B Leach, 3B Waste, 5A Waste, 6B Leach, 6C Leach, and 6D Leach stockpiles that are located outside of the pit perimeter but inside the OPSDA (Drawing No. 2, Appendix A, 2013 Tyrone Mine Closure/Closeout Plan Update, dated April 29, 2020) are granted a waiver from the requirements of achieving a SSE under authority of §19.10.5.507.B NMAC. The portions of the 1A Leach, 1B Leach, 2 Leach (Area 1 and 2), 2B Leach, 3B Waste, 5A Waste, 6B Leach, 6C Leach, and 6D Leach stockpiles that are waived from reclamation shall be updated every five years during CCP updates or as required by this Permit.

## 2. Cover Placement Plan

- a. Acid-generating stockpile top surface and outcrops areas shall be covered with a minimum thickness of 36-inches of RCM. The textural characteristics of the cover material shall be supportive of an SSE.

- b. The 9A and 9AX stockpiles may be used as a borrow source if the material is approved for use as RCM. Otherwise, the top surface and outslopes of the 9A and 9AX stockpiles shall be covered with a minimum thickness of 12-inches of RCM.

3. Revegetation Plan

- a. Top surface and outslopes shall be reclaimed and revegetated in accordance with the reclamation and revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.
- b. All stockpile sources used as borrow for RCM shall be graded for stormwater control, compacted surfaces shall be ripped to a minimum depth of 24-inches, and revegetated according to the requirements of Appendix A, Seeding Methods and Revegetation Standards, of this Permit. All slopes and high walls created by excavation of borrow, unless part of the operational pit development, shall be no steeper than 3.0H:1.0V.

4. Post-Mining Land Use

- a. The PMLU for stockpiles is approved to be wildlife habitat. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:
  - i. Vegetation in the reclaimed areas shall meet approved MMD revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.
  - ii. Wildlife use shall be documented after reclamation by conducting wildlife surveys including, but not limited to, deer pellet count surveys and bird diversity surveys in accordance with Section 9.R.4 Wildlife Monitoring of this Permit.

**E. Mine Area Stockpiles Located Inside of the OPSDA and Inside the Conditional Waiver Area – Subject to Top Surface Reclamation Only and Existing Unit Reclamation Standards**

The following conditions apply to the following in-pit stockpiles located inside the OPSDA and are covered by the conditional MMD waiver area updated in the *Tyrone Stockpile Open Pit Waiver Update for 2020*; Mining Act Permit No. GR010RE, dated August 26, 2020 have been granted a conditional waiver from the requirement of achieving an SSE or PMLU as required by §19.10.5.507.B NMAC. The open pit and stockpile waiver area is updated annually by August 31<sup>st</sup> in accordance with Revision 10-1 to this Permit. Closure/closeout activities within the waiver area shall focus on safety measures, wildlife and public access restrictions, and short-term and long-term water management. Flat stockpile areas located inside the conditional waiver area and within the OPSDA shall be reclaimed in accordance with this

Condition of this Permit [**Attached Map 1: 2020 Pit Waiver Evaluation**]:

- Interior Slopes of the 1A Leach, 1B Leach, 2B Leach, 2 Leach (Area 1 and Area 2), 6B Leach, 6C Leach, and 6D Leach.
  - Interior Slopes of the 3B Waste.
  - 6A Leach and Valenci In-Pit Leach
  - 8A Waste, 8C Waste, and Gettysburg Waste
  - Western portion of the 5A Waste.
1. Surface Shaping and Stormwater Management
    - a. Reclamation design shall conform with Section 5.2.2 (“Stockpiles Located Inside the Revised OPSDA and Revised Conditional Waiver Area”) and *Table 4-2: Summary of Key Design Criteria for Facilities to be Closed* of the CCP 2020 Update.
    - b. Permittee shall establish positive drainage by constructing the top surface (existing at mine closeout) to a minimum final grade of between 1% and 5% to direct stormwater to surface water conveyance channels, in accordance with the final design.
    - c. Armored channels shall be constructed, at a minimum, to convey peak flows generated from 100-year, 24-hour storm events, or an alternate criterion approved by MMD in consultation with other state or federal agencies. Surface water conveyance channels shall be constructed to direct surface water off the surfaces of the stockpiles to the nearest open pit sump.
  2. Cover Placement Plan
    - a. The top surface of the units identified by the bullet points under subparagraph (E) shall be covered with a minimum thickness of 36-inches of RCM.
  3. Revegetation Plan
    - a. Top surfaces shall be reclaimed and revegetated in accordance with the reclamation and revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.
  4. Post-Mining Land Use
    - a. The PMLU for the top surfaces of the units identified by the bullet points under subparagraph (E) is approved to be wildlife habitat. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:
      - i. Vegetation in the reclaimed areas shall meet approved MMD revegetation

standards set forth in Appendix, A Seeding Methods and Revegetation Standards, of this permit.

- ii. Wildlife use shall be documented by conducting wildlife surveys including, but not limited to, deer pellet count surveys and bird diversity surveys in accordance with Section 9.R.4, Wildlife Monitoring of this Permit.

5. Miscellaneous

- a. Process water pipelines located within the footprint of the conditionally waived areas that will not be part of the post-closure water management and water treatment system shall be removed and disposed of in an approved manner.
- b. All aboveground electrical systems and infrastructure, including outdoor lighting and transmission lines, not used for PMLU purposes or not necessary for site operation and maintenance, including water treatment, shall be removed.

F. **Tyrone Open Pits Located within the Conditional Waiver Area – Subject to Existing Unit Reclamation Standards (§19.10.5.507.B NMAC)**

The Tyrone Mine open pits that are subject to pit waivers under §19.10.5.507.B NMAC: Main, West Main III, West Main II, Valencia, Savanna, Gettysburg and Copper Mountain [**Attached Map 1: 2020 Pit Waiver Evaluation**]

The interior of the waiver area shall meet the following requirements:

1. Environmental Standards

All applicable federal and state environmental laws, regulations, and standards shall be met through short-term and long-term management and treatment of process water as documented in Section 5.5 (“Water Management and Treatment Plan”) and Appendix D of the CCP 2020 Update entitled “Basis of Cost Estimate for Water Management and Treatment” prepared by Golder Associates, dated April 29, 2020, and as required by NMED as required by DP-1341 or other applicable discharge permits.

2. Public Health and Safety

Permittee shall ensure that the Tyrone Mine open pit does not pose a current or future hazard to public health or safety and shall take measures in accordance with Section 5.2.4 “Open Pits (Conditional Waiver Area)”, and Section 6.5 “Public Health and Safety” of the CCP 2020 Update to limit future access to the Tyrone Mine pit area to authorized personnel by implementing the following measures at closeout:

- a. Vehicle and pedestrian access shall be controlled by a minimum of 6-foot-high chain link fencing and/or a water diversion and exclusion berms constructed around the circumference of the Tyrone Mine open pit.
- b. Berms shall be a minimum of 10-feet wide and 5 to 10-feet high with side slopes angled at 1.5H:1.0V.
- c. To allow pit access for maintenance activities by authorized personnel, locked gates shall be placed at 1-mile intervals and/or in appropriate locations in association with the berm/fence combination.
- d. Signs shall be posted on the fencing at 500-foot intervals and at all access points, warning of the potential hazards present.
- e. Visual inspections to monitor stability of the pit walls on a quarterly basis to identify potential failure areas, which may adversely impact the environment and public health or safety. If failure areas are identified through monitoring, the Permittee shall propose measure to mitigate the hazard within 30 days of identification for MMD approval.
- f. All constructed safety measures shall be maintained throughout the post-closure period.

3. Wildlife

- a. Permittee shall take all appropriate measures, including but not limited to hazing and exclusionary techniques, after closeout to minimize adverse impacts to waterfowl and other wildlife resulting from collection of water in the open pit.

4. Miscellaneous

- a. All aboveground electrical systems and infrastructure, including outdoor lighting and transmission lines, not used for PMLU purposes or not necessary for site operation and maintenance, including water treatment, shall be removed, or buried.

**G. Tyrone Open Pits Located Outside Conditional Waiver Area – Subject to Existing Unit Reclamation Standards (§19.10.5.507.B NMAC)**

The following conditions apply to the San Salvador and South Rim open pits located within the pit waiver area and inside the OPSDA:

1. Surface Shaping and Stormwater Management

- a. Reclamation design shall conform with Section 5.2.3 (“Open Pits (Non-Waiver Areas) Waiver Area”) and *Table 4-2: Summary of Key Design Criteria for Facilities to be Closed* of the CCP 2020 Update and shall meet the standards of §19.10.5.507.A NMAC (“Existing Unit Reclamation Standards”).
- b. The South Rim open pit shall be fully backfilled and the San Salvador open pit shall be backfilled to allow surface water to be directed to the Oak Grove Wash drainage, as proposed in the CCP.
- c. Permittee shall regrade the backfill over pit walls to inter-bench slopes to a minimum of 3.0H:1.0V.
- d. Inter-bench slope lengths shall not exceed 200 feet for pit slopes.
- e. Terrace bench minimum widths shall be 32 feet. Bench longitudinal slopes shall be between 1% and 5%. Bench cross slopes and channels shall be no greater than 5%.
- f. Permittee shall regrade the backfilled San Salvador and South Rim open pits in a manner that promotes positive drainage to the exterior perimeter of the backfilled pits and eliminates, to the extent practicable, ponding on the top surface and final cover surfaces. Permittee shall construct the top surface to a minimum final grade of between 1% and 5% to direct stormwater to surface water conveyances to the exterior perimeter of the covered surfaces.
- g. Surface water conveyance channels shall be constructed where necessary to adequately direct surface water off the covered stockpile surfaces. All post-closeout, permanent water conveyances and channels shall be designed and constructed to convey the peak flow generated by the 100-year, 24-hour storm event, at a minimum, or an alternate criterion approved by MMD in consultation with other state or federal agencies. Surface water conveyance channels and other surface water control structures shall be constructed with appropriately armoring to withstand the peak flow generated by the 100-year, 24-hour storm event, at a minimum.

2. Cover Placement Plan

- a. The top surfaces and outslopes of the backfilled San Salvador and South Rim open pits shall be covered with a minimum thickness of 36-inches of RCM. The textural characteristics of the cover material shall be supportive of an SSE.

3. Revegetation Plan

- a. Covered top surface and outslopes shall be reclaimed and revegetated in accordance with the reclamation and revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

4. Post-Mining Land Use

- a. The PMLU for stockpiles is approved to be wildlife habitat. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:
  - i. Vegetation in the reclaimed areas shall meet approved MMD revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.
  - ii. Wildlife use shall be documented by conducting wildlife surveys including, but not limited to, deer pellet count surveys and bird diversity surveys in accordance with Section 9.R.4 Wildlife Monitoring of this Permit.

**H. CSG Stockpile**

The following conditions apply to the CSG stockpile and all conditions of Modification 19-1 of this Permit:

1. Surface Shaping and Stormwater Management

- a. Permittee shall regrade the CSG stockpile in a manner that promotes positive drainage to the exterior perimeter of the stockpile and eliminates, to the extent practicable, ponding on the top surface and final cover surfaces. Permittee shall construct the top surface to a minimum final grade of between 0.5% and 5% to direct stormwater to surface water conveyance channels.
- b. Permittee shall construct an alternating slope-bench configuration regrading the inter-bench slopes to a minimum of 3.0H:1.0V, unless alternative regrading designs are approved by MMD.
- c. Terrace benching inter-bench slope lengths shall not exceed 300 feet.
- d. Terrace bench widths shall be a maximum of 50 feet. Bench longitudinal slopes shall be between 1% and 5%. Bench cross slopes and channels shall be no greater than 5%.
- e. Surface water conveyance channels shall be constructed where necessary to adequately direct surface water off the CSG stockpile surfaces. All post-closeout, permanent water

conveyances and channels shall be designed and constructed to convey the peak flow generated by the 100-year, 24-hour storm event, at a minimum, or an alternate criterion approved by MMD in consultation with other state or federal agencies. Surface water conveyance channels and other surface water control structures shall be constructed with appropriately armoring to withstand the peak flow generated by the 100-year, 24-hour storm event, at a minimum, or an alternate criterion approved by MMD in consultation with other state or federal agencies.

- f. Permittee shall regrade the CSG stockpile outslopes to facilitate revegetation at closeout of the mine.

## 2. Cover Placement Plan

- a. Stockpile top surface and outslopes shall have textural characteristics supportive of an SSE.
- b. The CSG stockpile may be used as a borrow source if the stockpiled material has textural characteristics of RCM and is supportive of an SSE.

## 3. Revegetation Plan

- a. Top surface and outslopes shall be reclaimed and revegetated in accordance with the reclamation and revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

## 4. Post-Mining Land Use

- a. The PMLU for the CSG stockpile is approved to be wildlife habitat. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:
  - i. Vegetation in the reclaimed areas shall meet approved MMD revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.
  - ii. Wildlife use shall be documented by conducting wildlife surveys including, but not limited to, deer pellet count surveys and bird diversity surveys in accordance with Section 9.R.4 Wildlife Monitoring of this Permit.



**I. East Mine Area - Subject to Existing Unit Reclamation Standards (§19.10.5.507.B NMAC)**

Reclamation design shall conform with Section 5.3 (“East Mine Area”) and *Table 4-1: Table 4-1: Summary of Buildings/Facilities to be Demolished* of the CCP 2020 Update and shall meet the standards of §19.10.5.507.A NMAC (“Existing Unit Reclamation Standards”).

The following conditions apply to Acid Unloading Facility & Former Precipitation Area facilities shown Figure 2-9, Acid Unloading Area, of the CCP 2020 Update:

**1. Planned Closure/Closeout Activities**

- a. All buildings and structures shall be reclaimed, removed, or buried.
- b. Removal of all debris and visually affected soil at or near the surface in unpaved areas, disposal of debris or affected soil in an approved manner and covering with 36-inches of RCM. Collection of confirmation samples where affected soils were removed.
- c. Above-ground acid or process water, PLS and raffinate pipelines, tanks, and former precipitation plant cells not used in the Industrial PMLU or not necessary for the site operation and maintenance, post-closure water management or water treatment, shall be flushed to remove residual solutions and buried or removed to an approved location.
- d. Capping all non-functional buried process water, PLS, and raffinate pipelines.
- e. Culverts and surface water conveyance structures shall be maintained or removed if they are not necessary for the PMLU.
- f. Haul roads and access roads not required for closure and post closure access, the industrial PMLU, or for water treatment shall be reclaimed to achieve a wildlife PMLU.
- g. Utility structures, footings, slabs, walls, pavement, manholes, vaults, stormwater controls and other foundations not used in the Industrial PMLU or not necessary for the site operation and maintenance, post-closure water management or water treatment, shall be removed or reclaimed in place and covered with 24-inches of RCM.
- h. Removal of all aboveground electrical systems and infrastructure, including outdoor lighting and transmission lines, not used in the Industrial PMLU or not necessary for the site operation and maintenance, including water treatment.

2. Surface Shaping and Stormwater Management

- a. Permittee shall fill and grade the acid-unloading and former precipitation plant area in a manner that promotes positive drainage.

3. Cover Placement Plan

- a. Facilities located on potentially acid-generating material shall be regraded and covered with a minimum of 36-inches of RCM and revegetated.
- b. Facilities located on native soils or bedrock shall be ripped to a depth of 18 to 24 inches, where feasible, then regraded and revegetated.

4. Revegetation Plan

- a. Disturbed areas shall be reclaimed and revegetated in accordance with the reclamation and revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

5. Post-Mining Land Use

- a. The PMLU for this unit is approved to be wildlife habitat. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:
  - i. Vegetation in the reclaimed areas shall meet approved MMD revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

**J. Surface Impoundments Subject to Existing Unit Reclamation Standards (§19.10.5.507.A NMAC)**

The following conditions apply to all impoundments located outside of the OPSDA or waiver area or impoundments and components not required as part of the PMLU, short-term or long-term water treatment plan including:

- Storage tanks for process waters, seepage collection water, and extracted ground water/pit water
- Stormwater catchments
- Dams
- Reservoirs

1. Surface Shaping and Stormwater Management

- a. Reclamation design shall comply with Section 5.2.5 (“Surface Impoundments and Tanks”), *Table 2-1: Tyrone Mine Surface Impoundments* and *Table 5-1: Post-Closure Surface Impoundments* in the CCP 2020 Update.
- b. Surface components (e.g., booster pumps, sumps, pipeline systems, drip line systems, control systems, etc.) not required for post-closure purposes shall be closed through removal or burial of all systems, removal or burial of pipelines, removal of tanks, removal, or burial of infrastructure prior to regrading, and proper disposal of these materials.
- c. Impoundments located within the OPSDA or waiver area that are not planned to be part of the short-term or long-term water treatment system shall be graded to drain at closure.

2. Cover Placement Plan

- a. Synthetic liners, if present and outside the regraded toe of stockpile facilities or waiver area, shall be removed or ripped.
- b. Impoundments not part of the PMLU shall be covered with a minimum of a total of 36-inches of RCM.

3. Revegetation Plan

- a. Impoundments not required for short or long-term water treatment shall be reclaimed and revegetated in accordance with the reclamation and revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

4. Post-Mining Land Use

- a. The PMLU for these units is approved to be wildlife habitat. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:
  - i. Vegetation in the reclaimed areas shall meet approved MMD revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

5. Miscellaneous

- a. All aboveground electrical systems and infrastructure, including outdoor lighting and transmission lines, not used for PMLU purposes or not necessary for site operation and maintenance, including water treatment, shall be removed, or buried.

- b. Buried process water pipelines and other pipelines shall be capped and/or disposed in accordance with NMED Rules.
- c. Where soil contamination exists in impoundment soils outside the waiver, Permittee shall remediate the soils as required by NMED and to a condition allowing for re-establishment of an SSE or approved PMLU.

**K. Buildings and Structures – Subject to Existing Unit Reclamation Standards (§19.10.5.507.A NMAC)**

The following conditions apply to facilities listed below that are not designated as part of the Industrial PMLU listed within *Table 4-1: Summary of Buildings/Facilities to be Demolished* of the CCP 2020 Update and as shown in Figure 2-5, Main Mine Facilities Area; Figure 2-6, SX/EW Plant; Figure 2-7, Former Mill and Concentrator Reclaimed Area; Figure 2-8, Lubrication Shop Area; and Figure 2-9, Acid Unloading Area, of the CCP 2020 Update:

- Mine Maintenance Facilities
  - Jerome Building
  - Plant Warehouse
  - Electric Shop
  - Pipe Shop
  - Carpenter Shop
  - Lumber Storage
  - Shovel Repair
  - Environmental Lab
- SX/EW Plant Area
  - Tankhouse
  - SX/EW Plant Area Shop
  - Leach Crew Office
  - SX/EW Warehouse
  - Gonzales Cells
  - Jamison Cells
  - Organic Tanks (4)
  - Mixer/Settler Tanks (8)
  - Tank Farm
  - Water Tank
  - Acid Tanks (2)
  - MCC Building
  - Tool Room and Storage
  - Chlorinator Room
  - 2A West Raff Tank
  - Rectifiers

- Workroom
- Pump Mixer Control Room
- Cobalt Sulfate Tank
- Reagent Tanks (2)
- Tool Room
- Diluent Storage Tank
- Pacesetter Filters (2)
- Wash Pad
- Former Mill and Concentrator Reclaimed Area
  - Tailing Thickeners (2), to be reclaimed in place
  - Reclaim Water Pumphouse
  - Warehouse and Core Storage
  - Reagent Building
  - Fuel Station
  - Tire Shop
  - Inactive Diesel Tanks (2)
- Lubrication Shop Area
  - Prill Tanks (2)
  - Lubrication Shop
  - Southwest Energy Building
  - Electric Power Substation
  - Powder Magazines (3)
  - Storage Sheds
  - Lube Shop Addition
  - #2 Fuel Dock Concrete Slab
- Acid Unloading Area (East Mine Area)
  - Acid Unloading Facility
  - Former Precipitation Plant Building
- Mangas Valley Tailing Area
  - No. 1 Tailing Dam Reclaim Water Pump Station and Substation
- 2B Leach (Little Rock Haul Road Fuel Dock Area)
  - Fuel Dock

1. Planned Closure/Closeout Activities

- a. Reclamation design shall comply with Section 5.2.6 (“Buildings and Structures”) and *Table 4-2: Summary of Key Design Criteria for Facilities to be Closed* and shall meet the standards of §19.10.5.507.A NMAC (“Existing Unit Reclamation Standards”).
- b. All buildings, tanks and structures that will not be required for water treatment or designated as an Industrial PMLU shall be demolished, removed, and/or buried.
- c. Demolition specifications shall be submitted for MMD approval at least 180 days prior to implementation.
- d. Removal or burial of all debris and visually affected soil and or near the surface in unpaved areas, and disposal of debris or affected soil in an appropriate manner.
- e. Stormwater shall be diverted from paved areas and along access roads at the Mine Maintenance Facilities area, SX/EW plant Area, Former Mill and Concentrator Reclaimed Area, Lubrication Shop Area, and Acid Unloading Area through ditches and culverts to exiting sediment/storm water control ponds.

2. Cover Placement Plan

- a. Impacted or affected areas shall be covered with a minimum thickness of 36-inches of RCM.
- b. Where footings, slabs, walls, pavement, manholes, vaults, storm water controls, and other foundations are not included in the industrial PMLU, abandoned in-place over non-acid generating material, and not demolished, they shall be covered with a minimum of 24-inches of RCM. The covered foundation areas shall be graded for stormwater control.

3. Revegetation Plan

- a. Covered footings, slabs, walls, pavement, manholes, vaults, stormwater controls, and other foundations not included in the industrial PMLU shall be reclaimed and revegetated in accordance with the reclamation and revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

4. Post-Mining Land Use

- a. The PMLU for the facilities listed in this subparagraph (K) is approved to be wildlife habitat. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:

- i. Vegetation in the reclaimed areas shall meet approved MMD revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

**L. Buildings and Structures Designated for an Industrial Post-Mining Land Use**

The following conditions apply to facilities pursuant to *Section 7.2: Industrial Post-Mining Land Use* and *Table 7-3: Post-Mining Land Use Designations of Tyrone Mine Buildings* of the CCP 2020 Update that are approved for an Industrial PMLU:

1. Permittee shall provide to MMD a building inspection certification signed by a professional engineer that the buildings area in good condition, meet all applicable codes, are structurally sound, meet all zoning requirements, meet all local ordinances, and all utilities are operable. This certification shall be provided to MMD by December 2023 and once every five years thereafter.
2. Permittee shall provide an update to the general erosion control plan to be implemented at closeout for the area covered by the Industrial PMLU. The plan describes the installation of erosion control features to include, but not limited to, road design construction, berms, culverts, diversions, dikes, sediment control ponds, revegetation, water bars, armoring or rip rapping. The update to the erosion control plan shall be provided to MMD within 270 days of approval of this Permit Revision.
3. Permittee shall not be released from requirements of the New Mexico Mining Act and Rules for those areas approved as industrial until the industrial PMLU has been implemented. Implementation shall be demonstrated as follows:
  - a. If soil contamination exists in and around all buildings and facilities for industrial use, the Permittee shall demonstrate that any required remediation has been completed for these areas to be utilized for the Industrial PMLU. The Permittee shall provide a soil remediation plan to MMD for approval prior to implementation of remediation.
  - b. The Permittee shall demonstrate either: 1) execution of long-term contractual commitments for the sale, lease, or occupancy of a substantial portion of the areas approved for Industrial PMLU use with commercial businesses or 2) reasonable certainty that such contractual commitments will be executed either with the release of the permit from the Mining Act or shortly thereafter. MMD shall determine whether the Permittee has complied with those requirements.

- c. Where structures are to be located on or near post-mine filled slopes, mine cuts, or overburden piles; demonstrate that these features are stable or not a hazard to the structures that will remain as part of the Industrial PMLU. Such demonstration requires a stability analysis prepared by a geotechnical engineer or equivalent and may rely on previously submitted information.
- d. Demonstrate that revegetated areas within the Industrial PMLU provide sufficient cover to stabilize those areas where reseeding has occurred.
- e. Provide documentation that the area comprising the Industrial PMLU meets state and federal requirements.

4. Miscellaneous

- a. All aboveground electrical systems and infrastructure, including outdoor lighting and transmission lines, not used for the Industrial PMLU purposes or not necessary for site operation and maintenance, including water treatment, shall be removed, or buried.
- b. Process water pipelines and other pipelines not used for the Industrial PMLU purposes or not necessary for site operation and maintenance, including water treatment, shall be capped and/or disposed in accordance with NMED Rules.

**M. Ancillary Facilities – Subject to Existing Unit Reclamation Standards (§19.10.5.507.A NMAC)**

Ancillary facilities that are not part of or support the Industrial PMLU, or other PMLU that requires the continued use of the buildings or structures, and are not necessary for site operation and maintenance, including water treatment, shall be reclaimed in accordance with *Section 5.2.6 Buildings and Structures* and *Table 4-2, Summary of Key Design Criteria for Facilities to be Closed* of the CCP 2020 Update. This condition also applies to the facilities located in the Mangas Valley Tailing Area identified in *Section 5.1, Mangas Valley Tailing Area* of the CCP 2020 Update.

Ancillary facilities include, but are not limited to:

- Utility and structure foundations
- Pipelines and pipeline corridors
- Footings, slabs, walls, pavements, structures, manholes, vaults, stormwater controls and other foundations
- Tailing launder existing embankments, associated culverts, and the tailing launder trestle crossing the Redrock diversion
- Tailing interceptor system



- Electrical distribution system (e.g., power lines, poles, converters, substations)
- Explosives, fuel, and reagent storage areas
- Exploration holes/wells

1. Planned Closure/Closeout Activities

- a. All buildings and structures not needed for either an industrial or wildlife PMLU shall be reclaimed, removed, or buried.
- b. Permittee shall bury or remove and properly dispose of all pipelines and associated materials where not previously addressed in this Permit that are not necessary for the site operation and maintenance, including water treatment. All pipeline corridors shall be graded for stormwater control, ripped, or covered with a minimum of 24-inches of approved RCM and revegetated according to the requirements of Appendix A, Seeding Methods and Revegetation Standards, of this Permit.
- c. Pipeline corridors located outside the regraded footprint of stockpiles and outside the OPSDA shall be inspected and characterized for evidence of past spills. Impacted areas shall be removed or covered with 36-inches of RCM.
- d. Process water pipelines that contained contaminated materials that will not be part of the post-closeout water management and water treatment system shall be flushed and buried or removed to an approved location.
- e. Culverts and surface water conveyance structures shall be maintained or removed if they are not necessary for the PMLU.
- f. Haul roads and access roads not required for closure and post closure access, the industrial PMLU, or for water treatment shall be reclaimed to achieve a wildlife PMLU.
- g. Utility structures, footings, slabs, walls, pavement, manholes, vaults, stormwater controls and other foundations located outside the OPSDA/waiver area that are not needed for the industrial PMLU shall be removed or reclaimed in place.
- h. Tailing Launder. Permittee shall remove remaining existing embankments, associated culverts, and the tailing launder trestle crossing the Redrock diversion in accordance with the approved tailing launder reclamation work plan.
- i. Tailing Interceptor System. The 1X tailing interceptor system, the 1A tailing seepage collection system, the 1X tailing seepage collection pond, and associated pumps and pipelines will continue to be operated until applicable groundwater standards are met at each system.

- j. Electrical Distribution System. Permittee shall removal all electrical systems and infrastructure, including outdoor lighting and transmission lines, not used in the Industrial PMLU or not necessary for the site operation and maintenance, including water treatment. The Permittee shall maintain the remaining portion of the electrical distribution system for the Industrial PMLU in satisfactory condition that complies with all applicable building codes and regulations. Power poles not required for the electrical distribution system of the industrial PMLU or water treatment shall be removed unless left in place as raptor habitat as approved by MMD.
  - k. Explosives, Fuel, and Reagent Storage Areas. Permittee shall remove and properly dispose of explosives, fuel, and reagent chemicals and materials. All storage areas shall be graded for stormwater control, ripped, or covered with a minimum of 24-inches of approved RCM, and revegetated according to the requirements of Appendix A, Seeding Methods and Revegetation Standards, of this Permit.
  - l. Exploration Holes/Wells. 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.
2. Cover Placement Plan
- a. Any ancillary facility located on potentially acid-generating material shall be regraded, covered with a minimum of 36-inches of RCM, and revegetated.
  - b. Any ancillary facility located on native soils or bedrock shall be ripped to a depth of 18 to 24 inches, where feasible, then regraded and revegetated.
3. Revegetation Plan
- a. Any ancillary facility disturbed area shall be reclaimed and revegetated in accordance with the reclamation and revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

4. Post-Mining Land Use

- a. With the exception of maintenance roads and infrastructure corridors, the PMLU for these units is approved to be wildlife habitat. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:
  - i. Vegetation in the reclaimed areas shall meet approved MMD revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

N. **Borrow Material Areas and Miscellaneous Disturbed Areas – Subject to Existing Unit Reclamation Standards (§19.10.5.507.A NMAC)**

The following conditions apply to borrow material areas (see *Figure 6, Potential RCM Borrow Sources, Appendix E, Characterization and Volumetrics of Gila Conglomerate and Precambrian Granite Reclamation Cover Materials*, CCP 2020 Update), or miscellaneous disturbed areas located in the Permit Area including, but not limited to:

- CSG stockpile
- 5A waste stockpile
- Lube Shop Area located at the east side of the Main Pit
- Additional RCM borrow areas located south of the Reclaimed 1A Tailing Impoundment, Main Mine Facility Area.
- 9A and 9AX Waste Stockpiles (if Precambrian Granite is approved as RCM)

1. Planned Closure/Closeout Activities

- a. Borrow material areas shall be reclaimed as described in accordance with Section 5.4 (“Borrow Areas”) in the CCP 2020 Update.
- b. Any borrow areas shall have slopes no steeper than 3.0H:1.0V or 2.5H:1.0V for borrow stockpiles adjacent to a designated Surface Water of the State or a highway and shall be graded for stormwater control to minimize erosion to promote long-term stabilization.
- c. If needed, armored channels shall be constructed, at a minimum, to convey peak flows generated from 100-year, 24-hour storm events, or an alternate criterion approved by MMD in consultation with other state or federal agencies.
- d. Disturbance of the areas described in the previous paragraph, shall be reported to MMD in the annual report. Disturbance shall be reclaimed to a PMLU of wildlife habitat.

2. Revegetation Plan

- a. The borrow areas and other disturbed areas shall be reclaimed and revegetated in accordance with the reclamation and revegetation methods set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

3. Post-Mining Land Use

- a. The PMLU for these units is approved to be wildlife habitat. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:
  - i. Vegetation methods in the reclaimed areas shall be completed using the methods of Appendix A, Seeding Methods and Revegetation Standards, of this Permit.
  - ii. Wildlife use shall be documented by conducting wildlife surveys including, but not limited to, deer pellet count surveys and bird diversity surveys in accordance with Section 9.R.4 Wildlife Monitoring of this Permit.

**O. Haul Roads – Located Outside of the OPSDA and Outside the Conditional Waiver Area- Subject to Existing Unit Reclamation Standards (§19.10.5.507.A NMAC)**

The following conditions apply to the haul roads:

1. Public Safety

- a. Permittee shall ensure that the haul roads that remain in use during or after the reclamation period will not pose a current or future hazard to public health or safety and will take measures to limit future access to roads to authorized personnel. Where practicable and necessary to restrict access by unauthorized personnel and provide for public safety, fencing shall be placed along or near roads to prevent trespass and provide for public safety.

2. Surface Shaping and Stormwater Management

- a. Haul roads located on non-acid generating material shall be ripped to a depth of 18 to 24 inches regraded and reseeded according to MMD approved methods.
- b. Culverts shall be removed where practicable, unless they serve a post-closeout purpose.
- c. 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.

3. Cover Placement Plan

- a. If acid-generating material is encountered during closure, a minimum of 36-inches of RCM shall be applied.

4. Revegetation Plan (Except for Roads Needed Post-Closure)

- a. Top surface and out slopes shall be reclaimed and revegetated in accordance with the reclamation and revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

5. Post-Mining Land Use

- a. The PMLU for the haul roads shall be wildlife habitat. Compliance with §19.10.5.507.A NMAC shall be achieved by the following:
  - i. Vegetation in the reclaimed areas shall meet approved MMD revegetation standards set forth in Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

**P. Other Non-Specified Areas Subject to Existing Unit Reclamation Standards (§19.10.5.507.A NMAC)**

1. The following condition applies to any other disturbances within the permit area resulting from the mining operation not identified specifically in the CCP 2020 Update. This condition is required in order to reclaim the permit area to a condition that allows for re-establishment of an SSE as required by §19.10.5.507.A NMAC.
2. Unless otherwise approved, all areas previously disturbed and not identified specifically as a mine unit or borrow area shall be regraded for stormwater control, ripped, or covered with a minimum thickness of 24-inches of RCM and revegetated in accordance with the requirements of Appendix A, Seeding Methods and Revegetation Standards, of this Permit.

**Q. Water Management and Treatment Plan**

1. Permittee shall implement short-term and long-term water treatment as described in Section 5.5 ("Water Management and Treatment Plan"), Appendix D ("Basis of Cost Estimate for Water Management and Treatment") of the CCP 2020 Update, and pursuant to NMED requirements for the 100-year closure period.
2. Process water sources shall be managed and/or treated throughout the site reclamation activities and until applicable water quality standards are met as determined by NMED

requirements. Process water likely to be sent to the proposed water treatment system may include, but is not limited to:

- a. Residual process solutions from the leach operation such as pregnant leach solution and raffinate.
  - b. Meteoric water that infiltrates through the leach stockpiles to seepage collection.
  - c. Stormwater runoff that comes into contact with un-reclaimed leach stockpiles.
  - d. Meteoric water that infiltrates through the waste rock stockpiles to seepage collection.
  - e. Stormwater runoff that comes into contact with un-reclaimed waste rock stockpiles.
  - f. Stormwater runoff that comes into contact with un-reclaimed pit walls.
  - g. Water removed from the existing open pit sumps.
  - h. Impacted groundwater captured in seepage collection and interceptor well systems.
3. Compliance and/or enforcement of water management and treatment shall be in accordance with NMED requirements.

## **R. Post-Closure Monitoring and Maintenance**

Post-closure monitoring and maintenance shall be conducted as described in Section 7.0 ("Closure and Post-Closure Monitoring, Reporting, and Contingency Plans") of the CCP Update.

### **1. Erosion and Drainage Control Structures [Section 6.1 of the CCP 2020 Update]**

The following conditions apply to the reclaimed areas, including borrow areas listed in Condition N above. The conditions for 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 are being imposed so that reclamation will result in re-establishment of an SSE 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.

- a. The Permittee shall visually inspect reclaimed lands for signs of excessive erosion and shall mitigate significant erosion features to prevent further degradation of the site.

- b. Drainage channels, diversion structures, retention ponds, and auxiliary erosion control measures shall be inspected for compliance with best management practices as described by nationally recognized standards such as the U.S. Natural Resource Conservation Service or other equivalent standard deemed acceptable by MMD.
  - c. Inspections shall be conducted monthly for the first year following completion of reclamation construction activities for each unit, and quarterly thereafter.
  - d. Reclaimed areas shall additionally be inspected for evidence of erosion after rain events of one inch or greater in a 24-hour period.
  - e. Inspections shall continue until the specific units are released under the New Mexico Mining Act.
  - f. The Permittee shall report evidence of significant rill, gully, or sheet erosion on any reclaimed area within 48-hours of discovery. The Permittee shall report evidence of major instability or potential failure within 24-hours of discovery. Upon occurrence of either of these events, the Permittee shall provide MMD and NMED a written report that describes the nature and extent of erosion and a corrective action plan. The Permittee shall provide the written report and the corrective action plan within 30 days of discovery. The corrective action plan shall describe the efforts necessary to rectify the problem. The plan shall be implemented as soon as practical following approval by MMD.
  - g. Erosion control measures that are damaged or ineffective shall be repaired or redesigned as necessary to maintain their designated functions. If erosion control problems develop, the Permittee shall implement solutions to solve or mitigate the problem using generally accepted and appropriate erosion control measures. Long-term erosion control measures will include revegetation, the installation of berms, designed channels, and sediment containment structures, as necessary, and shall be designed for a minimum of a 100-year, 24-hour storm event, or an alternate criterion approved by MMD in consultation with other state or federal agencies. Short-term erosion control measures may include, but not be limited to, revegetation, silt fences, hay bales, water bars, and mulching.
2. Ground Water and Surface Water Control Facilities [Section 6.2 of the CCP 2020 Update]
- a. Closure and post-closure monitoring of all groundwater and surface water control facilities shall be conducted as described in Section 6.2 of the CCP Update, DP-1341 and NMED requirements.

3. Revegetation Success Monitoring [Section 6.3 of the CCP 2020 Update]

The following conditions are required to reclaim the Permit Area to a condition that allows for re-establishment of an SSE as required by §19.10.5.507.A NMAC, §19.10.5.508 NMAC (Copper Mountain South Pit Expansion Area) 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. Permittee shall notify MMD at least two weeks prior to any monitoring conducted pursuant to this Permit to allow MMD an opportunity to accompany personnel of the Permittee.
- b. The Permittee shall submit a vegetation monitoring plan 90 days prior to initial vegetation monitoring at a reclaimed area, for MMD approval and shall submit a map identifying the sample locations 30 days before subsequent vegetation monitoring events are conducted.
- c. The Permittee shall conduct 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 areas that have volunteer vegetation as well as other areas, if necessary. Quantitative monitoring 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.
- d. The canopy cover survey and woody stem density survey shall be conducted using the survey techniques approved by MMD.

4. Wildlife Monitoring [Section 6.4 of the CCP 2020 Update; Modification 16-2]

- a. Permittee shall notify MMD at least two weeks prior to any wildlife monitoring conducted as required by this Permit to afford MMD an opportunity to accompany personnel of the Permittee.
- b. Permittee shall document wildlife use areas to be reclaimed for a post-mining wildlife habitat as follows:
  - i. Deer pellet group counts shall be conducted seasonally in year 6 after reseeding, and in 2 years of the last 4 years prior to release of financial assurance; and



- ii. Bird diversity surveys shall be conducted twice (seasonally) in year 6 after reseeding, and then every 2 years during the last 4 years prior to application for release of financial assurance.
  - c. The deer pellet group counts, and the bird diversity surveys shall be conducted in the same years that the quantitative vegetation surveys are conducted as required in Appendix A, Seeding Methods and Revegetation Standards, of this Permit. Results of the surveys will be evaluated to determine wildlife-use trends during re-establishment of an SSE.
  - d. The Permittee shall perform the wildlife monitoring surveys in accordance with the MMD approved wildlife monitoring work plan. The results of wildlife surveys shall not be a condition of financial assurance release.
  - e. Proposed changes to the approved wildlife monitoring work plan shall be submitted to MMD at least 45 days prior to Permittee's implementation of the proposed changes.
5. Public Health and Safety [Section 6.5 of the CCP 2020 Update]
- a. Permittee shall ensure that the Tyrone Mine open pit area does not pose a current or future hazard to public health or safety and shall take measures to limit future access to the Tyrone Mine pit area to authorized personnel by implementing the following measures at closeout:
    - i. Permittee shall submit written details and maps of berm and fence locations that will be placed to restrict access by unauthorized personnel and provide for public safety within 180 days of cessation of operations.
    - ii. Permittee shall conduct annual visual inspections for erosion and slope stability of the interface of the conditionally waived stockpile areas and the non-waived stockpile areas.
    - iii. Permittee shall conduct quarterly visual inspections of the pit walls to identify signs of slope instability.
    - iv. Permittee shall report areas of instability or failure, which may adversely impact the environment or public health no later than 24 hours after discovery and shall propose mitigation measures within 30 days of identification for MMD approval.

**S. Annual Adjustment of Conditional Waiver Area [Section 7.6 of the CCP 2020 Update]**

- 1. Permittee shall submit plan view topographic and the MMD conditional waiver areas

annually by August 31<sup>st</sup>. The updated waiver areas shall be shown in comparison to the waiver areas reported in the previous year's update.

2. If the waiver areas have changed from the previous year, an assessment shall be provided describing how the updated waiver areas would qualify for a conditional waiver based on §19.10.5.507.B NMAC and the previous waiver approval by MMD.
3. The reclamation cost estimate and FA shall be updated if the changes to the conditional waiver areas would result in significant changes to the closeout plan in accordance with §19.10.12.1206 NMAC

#### **T. Reclamation Cover Material Handling Plan**

1. Permittee shall submit for approval an updated Reclamation Cover Material Handling Plan ("RCMH Plan") as part of the Final Design/CQA Plan. The RCMH Plan shall include the portions of the 5A stockpile that will be a cover material source and be further updated to include additional cover material sources as they are approved, including the Precambrian granite placed on the 9A and 9AX stockpiles if that material is approved as RCM.

#### **U. Pit Material Handling Plan**

1. The Permittee shall submit an updated Pit Material Handling Plan for RCM within 270 days after approval of this Permit.

#### **V. National Environmental Policy Act Documents**

1. Submittals
  - a. The Permittee shall submit to MMD any proposals approved by the U.S. Bureau of Land Management ("BLM") under the National Environmental Policy Act. If any of the Tyrone submittals to BLM indicate that additional or alternative closeout actions are necessary to ensure the establishment of an SSE; and/or meet the requirements of reclamation defined under §19.10.1.7.R(1) NMAC, the MMD may require that the Permittee submit a request to modify or revise the permit. 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.

#### **W. Additional Studies**

1. Revegetation

The following conditions apply in the event that the Permittee is required to demonstrate that proposed revegetation and reclamation measures or alternative revegetation and

reclamation measures will reclaim the Permit Area to a condition that allows for re-establishment of an SSE as required by §19.10.5.507.A NMAC.

- a. Test-plot studies for proposed RCM shall be conducted as required by MMD. At a minimum, the test-plot study will be designed to measure and evaluate the following test plot characteristics relative to successful revegetation as compared to an approved reference area:
  - i. Woody plant density.
  - ii. Percent canopy cover.
  - iii. Plant diversity.
  - iv. Relative erosion rates of covered and uncovered slopes.
  - v. Nutrient cycles functioning at levels of productivity sufficient to support biological diversity.

Nutrient cycles functioning levels of productivity to support biological diversity shall be investigated in areas where vegetation development is performing below expectations.

- b. The Permittee shall submit a test-plot study workplan to MMD prior to construction or implementation of a test plot. The Permittee shall include in the workplan, for MMD approval, the methodologies used for vegetation studies, soil suitability studies, statistical analysis for the test plots, and vegetation monitoring frequency. The methods shall be consistent with monitoring methodologies used for reclaimed areas at the mine site. The USNR test plot study work plan is approved, and the test plot study is ongoing.
- c. Test-plot studies shall analyze, at a minimum, cover/soil suitability parameters such as texture, CEC, water holding capacity (WHC), organic matter, macronutrients, soil microbiological activity, pH, EC and metals. Other parameters may be required, including physical and hydraulic characteristics. The Permittee shall also include additional information as required by other agencies.
- d. The Permittee shall submit to MMD no later than 180 days after test-plot construction, a report of the as-built vegetation test plots. This report shall include, at a minimum, a written description with maps of each of the test plots including number, size, location, and any analytical data. This information shall also be provided in tabular form. The test-plot construction report shall include a description of deviations from the workplan, if any. The maps included with this report shall include the locations of the borrow source(s). The report shall also include actual cover thickness data as approved

in the test plot work plan.

- e. Vegetation monitoring reports shall provide a discussion of observed erosion, the success or failure of specific revegetation efforts, evaluate trends, and identify limitations to plant establishment.

## 2. Precipitation Analysis

The permittee shall submit a precipitation analysis workplan that includes the Tyrone Mine to MMD approval within one year of the effective date of this Permit. The workplan will include 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 Tyrone Mine. The analysis shall consider stormwater impacts to existing reclaimed mine units and performance of associated stormwater structures during recent documented storm events at Tyrone Mine. The workplan will address all areas of the mine where reclamation is to occur.

## 3. 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 agencies. If any submittals to NMED or other agencies indicate that additional or alternative closeout actions are necessary to meet New Mexico Mining Act requirements, the MMD may 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 this permit is required by §§19.10.5.504.B and 19.10.5.505.B NMAC.

## **X. Financial Assurance**

The following conditions are required to ensure that adequate financial assurance is provided for the site, as required by §§19.10.5.506.J(2) and 19.10.12 NMAC.

1. The Permittee may apply for and obtain release of financial assurance in accordance with §19.10.12.1210 NMAC.
2. The Permittee shall evaluate the adequacy of the financial assurance at least every five years as part the CCP Update unless otherwise directed by MMD.
3. The Permittee shall not be released from the requirements of the Mining Act for those areas approved as industrial until the industrial PMLU has been implemented.
4. The Permittee shall be responsible at all times to maintain financial assurance in a form or forms and in an amount sufficient to meet the requirements of the Mining Act Rules.

5. The Director may require adjustment of the financial assurance as provided in §19.10.12.1206 NMAC.
6. The Permittee has provided financial assurance in the NPV amount of \$176,326,429 and in the current cost amount of \$170,874 in the following forms of financial assurance pursuant to Part 12 of the New Mexico Mining Act Rules: trust, a third-party guarantee, surety bond, real property collateral, and an irrevocable standby letter of credit. Pursuant to Revision 03-1 of this Permit, the \$170,874 is jointly held with the U.S. Bureau of Land Management (“BLM”) for earthwork/recontouring and revegetation/stabilization of Copper Mountain South Pit Expansion Area, pending an approved FA release. FA for the remaining O&M (including but not limited to revegetation and earthwork maintenance) is covered in the approved FA instruments totaling \$176,326,429 without the letter of credit.
7. **Trust.** A Trust has been established by the Permittee pursuant to §19.10.12.1208.E NMAC in the minimum amount of \$55,600,000, and governed by the Tyrone CCP Trust Agreement, dated April 12, 2004, between Tyrone and the Trustee (“Trustee Agreement”), as amended, for the benefit of MMD and NMED. The Director has approved the Trustee, the Trust Agreement, and the permitted investments of the Trust, which are provided in the Trust Agreement. The Permittee shall review the amount of funds in the Tyrone Trust based upon the valuation report provided by the Trustee to MMD and NMED at the end of each calendar year and shall provide additional financial assurance as follows:
  - a. If, at any annual review conducted under this paragraph, the amount of funds in the Trust plus any other financial assurance provided by Tyrone, excluding all amounts covered by a third-party guarantee, are not equal to or greater than twenty-five percent (25%) of the total amount of financial assurance required under this Permit at that time (based upon a net present value calculation), then Tyrone shall provide additional financial assurance such that the total value of all trust funds plus other financial assurance provided by Tyrone is equal to or greater than twenty-five percent (25%) of the total amount of financial assurance required under this Permit.
  - b. The Permittee shall report the ending balance of the Tyrone CCP Trust for each calendar quarter to MMD and NMED no later than April 30, July 31, October 31, and January 31 of each year.
  - c. The Permittee shall review the amount of funds in the Tyrone CCP Trust based upon the valuation reported provided by the Trustee to MMD and NMED as of the end of every calendar quarter and shall provide additional financial assurance as follows:
    - i. If the amount of funds in the Tyrone CCP Trust is not equal to or greater than the minimum account balance of \$55,600,000 for the previous consecutive 90-Business Days ending on the last day of the calendar quarter, then within 210 days

after the end of the calendar quarter, the Permittee shall make payment sufficient to bring the Tyrone CCP Trust account balance to \$55,600,000 (“Supplemental Payment”). To make this Supplement Payment the Permittee may establish a cash account pursuant to §19.10.12.1208.D NMAC or may establish a separate trust fund in a form approved by the Director in accordance with §19.10.12.1208.E NMAC in an amount such that the total of all trust funds provided as financial assurance for Tyrone equals at least \$55,600,000. When the amount of funds in the CCP Trust has been equal to or greater than the minimum account balance of \$55,600,000 for at least two consecutive quarters after the Supplemental Payment is made and the total amount of financial assurance, without considering the Supplemental Payment, is sufficient to meet the requirements of the Mining Act Rules, the Permittee may request that all amounts in a cash account or separate trust fund established to receive the Supplemental Payment be returned to Permittee.

- ii. Business Day is defined as any day that is not a Saturday, Sunday, or other day on which commercial banks in New York City are authorized or required by law to remain closed.
  - d. The Permittee shall not replace the Tyrone CCP Trust with other forms of financial assurance.
  - e. Earnings on invested funds shall be retained in the Tyrone CCP Trust.
  - f. Cost of administering the Tyrone CCP Trust and any taxes payable to the Tyrone CCP Trust shall be paid from the Tyrone CCP Trust.
  - g. MMD, NMED, and the Permittee shall establish a management committee composed of members within State Government with experience in financial matters and investments and an equal number of members designated by Tyrone who shall meet annually regarding the performance of the Trust and possible adjustments to the Trust managers and advisors.
8. **Third-Party Guarantee.** Freeport Minerals Corporation (“FMC”) has provided a Third-Party Guarantee, in the amount of \$40,396,711. The Third-Party Guarantee provides that if Tyrone fails to complete the performance requirements of this Permit, including closure and reclamation, FMC shall do so, upon forfeiture, shall fund such account as instructed by the Director in the full amount of that portion of the financial assurance covered by the Third-Party Guarantee. FMC has provided the Director with audited financial statements and a Certificate of Compliance and shall demonstrate financial soundness in accordance with §19.10.12.1208.G(8) NMAC.

- a. The Guarantor shall submit annual FMC financial statements audited by an independent certified public accountant together with an amended annual certificate of compliance to MMD within ten calendar days of receipt or no later than 90-days after the end of the fiscal year pursuant to §19.10.12.1208.G(2) NMAC. The Guarantor shall pay for all costs incurred for the audit and certification.
  - b. The Guarantor shall submit quarterly FMC unaudited financial statements together with an amended certificate of compliance within ten calendar days of receipt or no later than 60-days of the end of each calendar quarter pursuant to §19.10.12.1208.G(2) NMAC. The Guarantor shall also provide a certification from its Chief Financial Officer, or equivalent approved by MMD, attesting to the accuracy of the quarterly unaudited financial statements.
  - c. The Director may select an independent reviewer to evaluate and analyze the financial information provided or to monitor FMC's financial ability to provide a guarantee. The Permittee shall pay for any such evaluation, analysis, or monitoring pursuant to §19.10.12.1208.G(6) NMAC.
  - d. The Guarantor shall notify the Director within ten calendar days of receipt by the Guarantor of notice of a downgrade in the rating of the Guarantor's most recently issued senior credit obligation by Standard and Poor's or Moody's Investors Service.
  - e. The Guarantor shall notify the Director within ten calendar days of any increases in the amount of the guarantees for environmental permits issued in the United States for which the Guarantor is obligated.
  - f. The Guarantor shall notify the Director within ten calendar days of any administrative or judicial action filed or initiated alleging the insolvency or bankruptcy of the Guarantor or the Permittee or alleging any violations which would result in suspension or revocation of the Guarantor's license to do business.
9. **Surety Bond.** The Permittee current has in place Surety Bond No. SU1142397, issued by the Arch Insurance Company, in the amount of \$25,000,000 after adjustment to reflect NPV, and Surety Bond No. 022025842, issued by the U.S. Specialty Insurance Company, in the amount of 6,780,518 after adjustment to reflect NPV, for the benefit of MMD and NMED.
10. **Collateral.** Real property collateral may be offered by the Permittee and may be accepted by the Director as providing financial assurance.
- a. The list of approved real property collateral and the amount of financial assurance provided by each property is shown in Table 1, Tyrone Approved Tyrone Collateral Properties. Table 1 will be modified as properties are approved as collateral and to

- address any changes in approved collateral. As required by §19.10.12.1208.C NMAC, all properties shall be located in the State of New Mexico and none may be located within the Permit or affected area of a mining operation. The Permittee shall provide the Director with a first mortgage or other perfected first lien security interest for each property. The Director has approved the form of mortgage, the mortgage instruments provided for the ranches shown in Table 1, and the ranch values indicated on Table 1, and will evaluate the adequacy of the properties at least every five years based upon appraisals that will be due every five years commencing with appraisals due on April 21, 2021, then every five years thereafter with the updated closure/ closeout plans and upon market analysis letters provided annually in all years except years in which appraisals are due.
- b. The Permittee shall provide an appraisal by an independent qualified appraiser for all properties and has done so for the properties listed on Table 1. The Director will review the appraisals and shall require that the fair market value of the properties be in excess of the financial assurance amount by a margin that reflects market fluctuations and transaction costs.
  - c. Pursuant to §19.10.12.1208.C(1)(a) NMAC, the Director must require that the fair market value of collateral be in excess of the financial assurance coverage attributed to such collateral by a reasonable margin that reflects cost of disposition in event of forfeiture and changes in value anticipated over a five-year period.
  - d. For all real estate collateral, the Permittee shall place into escrow a special warranty deed conveying title from the current record owner of the property to the State of New Mexico subject only to those exceptions to title accepted by MMD and NMED. The Permittee and the agencies shall enter into one or more escrow agreements that provide for the delivery of the deed(s) to MMD and NMED upon forfeiture by the Permittee. Special warranty deeds and escrow agreements have been reviewed, approved and are in place and effective for all properties listed on Table 1.
  - e. Prior to the approval of any real property collateral, the Permittee shall provide phase I environmental assessments for all collateral properties to MMD and NMED. The environmental assessments shall be conducted in accordance with ASTM standards. MMD and NMED shall review the assessments, and provide any objections to the Permittee, within 30 days after receipt. Environmental assessments have been provided for all properties listed on Table 1.
  - f. In years between the years in which appraisals of properties are required, the Permittee must annually provide report(s) for two or more of the ranch properties bearing on potential changes in the market value of the properties since the last appraisal. At least every five years, the Permittee must provide a new or updated appraisal(s) of all properties remaining as collateral with the updated closure/closeout plans. The next



appraisal of all properties is due by April 21, 2021. The Director may require that the Permittee provide additional documents, such as updated title reports and environmental assessments or transactional screens, as part of any review of the collateral.

**Table 1: Tyrone Approved Tyrone Collateral Properties**

<b>Ranch Name</b>	<b>Appraisal Values</b>	<b>20% Margin</b>	<b>Approved Collateral Value</b>
Alamo Hueco	\$21,000,000	\$4,200,000	\$16,800,000
Allison	\$3,296,000	\$659,200	\$2,636,800
Bill Evans	\$3,450,000	\$690,000	\$2,760,000
Bird Area	\$1,024,000	\$204,800	\$819,200
Saddle Rock	\$877,000	\$175,400	\$701,600
Silsby	\$456,000	\$91,200	\$364,800
Timberlake	\$10,100,000	\$2,020,000	\$8,080,000
Turner Farm/Ranch	\$2,031,500	\$406,300	\$1,625,200
Turner	\$3,610,000	\$722,000	\$2,888,000
Tyrone	\$1,396,000	\$279,200	\$1,116,800
U-Bar Farm & Ranch	\$6,746,000	\$1,349,200	\$5,396,800
Warm Springs	\$5,658,000	\$1,131,600	\$4,526,400
Winn Canyon	\$1,042,000	\$208,400	\$833,600
<b>Total</b>	<b>\$60,686,500</b>	<b>\$12,137,300</b>	<b>\$48,549,200</b>

11. **Letter of Credit.** The Permittee currently has an Irrevocable Standby Letter of Credit No. 96218/80085 issued by Scotiabank, the Bank of Nova Scotia to MMD and the BLM as beneficiaries, in the amount of \$170,874 as financial assurance for the Copper Mountain South Pit Expansion Area. Pursuant to Revision 03-1 of this Permit, the \$170,874 is jointly held with the U.S. Bureau of Land Management (“BLM”) for earthwork/recontouring and revegetation/stabilization of Copper Mountain South Pit Expansion Area, pending an approved FA release. FA for the remaining O&M (including but not limited to revegetation and earthwork maintenance) is covered in the approved FA instruments totaling \$176,326,429 without the letter of credit.
12. The Permittee shall be responsible at all times to maintain financial assurance in a form or forms and in an amount sufficient to meet the requirements of the Mining Act Rules. In addition, the Permittee shall review the value of the Trust and the collateral based upon (a) the Trust valuation report provided by the Trustee to MMD and NMED and (b) the collateral market value reports or appraisals each as of the end of each calendar year, and shall provide additional financial assurance if necessary, to meet the requirements

of §19.10.12 NMAC and this Permit.

13. The Permittee may not replace the Trust with other forms of financial assurance. The Permittee may replace all or any portion of the Third-Party Guarantee or the collateral with other forms of financial assurance acceptable to the Director pursuant to §19.10.12.1209 NMAC, provided, however, that collateral may not be replaced with a third-party guarantee unless approved by the Director. The Director may require adjustment of the financial assurance as provided in §19.10.12.1206 NMAC.

#### Y. Water Quality

1. The Permittee shall submit to MMD a copy of any proposals approved by NMED involving groundwater modeling, geochemical characterization and modeling, and cover infiltration necessary for closure. The Permittee shall submit any studies required by NMED related to the CCP Update to MMD. If any of these submittals indicate that additional or alternative closeout actions are necessary to meet the requirements of the New Mexico Mining Act and Rules, the MMD may require the Permittee to submit to MMD a request to modify or review the permit. MMD will review the request 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.

#### Z. Reclamation Schedule

1. The reclamation schedule shall be as described in *Table 9-1: Reclamation Schedule* within the 2013 Tyrone Mine Closure Closeout Plan Update.
2. The reclamation of units at Tyrone shall begin in accordance with the schedule identified in *Table 2: Reclamation Schedule* below, unless earlier reclamation is required by other agencies or is initiated under the requirements of Section 9.BB Temporary Cessation.
3. 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.
4. Permittee may submit to MMD for approval a request to modify or revise the Reclamation Schedule pursuant to §19.10.5.505 NMAC.
5. Permittee's performance of reclamation shall not be construed to modify or limit the Permittee's existing obligations or requirements set forth in other state or federal permits.

**Table 2: Reclamation Schedule (From Table 9-1 in the CCP Update)**

Unit	Anticipated Start Date for Reclamation to Begin <sup>1, 2, 3, 4, 5, 7</sup>	Anticipated Duration (Years) <sup>6</sup>
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1A Leach, 1B Leach	180 days following cessation of use of facility in short-term ETS operations	6.0
2A Leach	180 days following cessation of use of facility in short-term ETS operations	11.0
2B Leach	180 days following cessation of use of facility in short-term ETS operations	11.0
2 Leach (Area 2), 7B Leach	180 days following cessation of use of facility in short-term ETS operations	6.0
7B Waste, 7C Waste	Two years following cessation of mining operations	3.0
3A Leach	180 days following cessation of use of facility in short-term ETS operations	12.0
2 Leach (Area 1)	180 days following cessation of use of facility in short-term ETS operations	6.0
6B Leach, 6D Leach	180 days following cessation of use of facility in short-term ETS operations	6.0
6C Leach	180 days following cessation of use of facility in short-term ETS operations	7.0
Impacted Soils and tailings Pipeline In and Around the Tailing Thickeners	180 days following cessation of mining operations	0.5
2B Waste	Two years following cessation of mining operations	11.0
3B Waste	Two years following cessation of mining operations	5.0
5A Waste	180 days following cessation of use as a borrow source for cover material	11.0
9A Waste, 9AX Waste	180 days following cessation of use as a borrow source for cover material	3.0
6A Leach	180 days following cessation of use of facility in short-term ETS operations	2.0
San Salvador Waste Backfill	Two years following cessation of mining operations	3.0
Reclaimed 1C Waste (Haul Road)	180 days following cessation of mining operations	1.0
CSG Waste	180 days following cessation of use as a borrow source for cover material	5.0
Other Borrow Areas	180 days following cessation of use as a borrow source for cover material	2.0
Building/Structure Demolition (non-IPMLU)	Two years following cessation of leaching operations	3.0
Reclamation of Roads	Two years following cessation of mining	3.0

	operations	
Surface Impoundments (non-PMLU)	Eight years following cessation of leaching operations	5.0
Short-Term Evaporation Treatment System	Immediately following cessation of leaching operations	10
Long-Term Evaporation Treatment System	Beginning in Year 10 following cessation of leaching operations	90
Water Treatment Plant Construction	Beginning of Year 14 following cessation of leaching operations, one year prior to start of water treatment system operation	1.0

Definitions for activities described in Table 9-1:

1. “Cessation of mining operations” means the cessation of ore recovery and waste haulage operations at the Tyrone Mine when there is no intent to resume operations.
2. “Cessation of leaching operations” means the cessation of copper recovery operations at the Tyrone Mine SX/EW Plant and related leaching stockpiles and infrastructure when there is no intent to resume operations.
4. “Start date” is defined as the date that work plans or engineering designs describing how the unit is to be closed or reclaimed have been submitted.
5. “Cessation of short-term ETS operation” means the cessation of the short-term evaporative treatment system.
6. “Anticipated duration” for facility reclamation does not include regulatory design review and approval processes. The Anticipated Durations specified in Table 2 are based on Cessation of Operation for various units occurring different times. If Cessation of Operation occurs for more than one unit of the same type at or near the same time, the Permittee may complete the reclamation of those units within a time period equal to the sum of the total Anticipated Durations for those units. The Permittee shall update Table 2 with proposed start dates for reclamation of each unit within 60 days of Cessation of Operation.
7. “Intent to resume operations” means that the operations have been suspended for a continuous period of no longer than two years due to temporary market conditions, government orders, or similar circumstances but are being maintained in a state of general readiness such that the operations could resume within a period of less than 180 days, as evidenced by remaining ore reserves and considering all of the following as a whole: (1) public statements of management concerning the status of the mining operations, such as in 10K and 10Q reports; (2) maintaining a staff on site to maintain equipment and facilities in an operable state; (3) conducting other ongoing mining operations such as drilling and operational mine planning, and (4) any other relevant factors that demonstrate an intent to resume operations. On or before 30 days before

each 180 days after the suspension of operations or the effective date of this Revision, whichever is later, the Permittee shall report to MMD on the intent to resume operations according to the criteria listed in this paragraph.

**AA. Compliance with Environmental Permits**

During the term of the permit issued under authority of §19.10.5 NMAC, the Permittee shall maintain in effect all environmental permits required for the Permit Area. Revocation or termination of such a permit or the forfeiture of financial assurance related to the Permit Area by another governmental agency is adequate grounds for the Director to issue a cessation order under authority of §19.10.11 NMAC.

**BB. Temporary Cessation**

If due to a temporary cessation of mining operations or leaching, with no intent to resume as described in note 7 of Table 2 above, for a period exceeding 180 days as provided as provided in §19.10.7.701.A NMAC, and the Permittee wishes to suspend the reclamation activities described in the schedule provided in *Table 2: Reclamation Schedule* above, the Permittee shall submit an application for a permit revision for standby status in accordance with §§19.10.5.505 and 19.10.7 NMAC. The permit revision for standby may apply specifically to mining operations, leaching operations, or a combination of the two.

**CC. Closure/Closeout Plan Renewal**

The Permittee shall submit an application for a revision of this Permit including an updated Closure/Closeout Plan pursuant to §19.10.5 NMAC at the same time it submits an application to renew Discharge Permit 1341 which provides the NMED's approval of the CCP 2020 Update. The renewal period shall be typically every 5 years, from the date of this permit approval.

**DD. Changes, Modifications, or Revisions to the Permit**

1. Earlier modifications or revisions to a portion, or portions, of the permit may be required if changes at the mine warrant such action as determined by the MMD Director.
2. Any changes, modifications or revisions to the approved Permit must be approved, in writing, prior to implementation.

**EE. Annual Report and Fees**

Permittee shall submit annual reports as required by §19.10.6.610 NMAC, and any fees as required by §19.10.2 NMAC. The Permittee shall identify any areas of new disturbance in each annual report submitted to MMD.

**FF. Permit Term**

Permittee shall maintain this Permit until reclamation is completed at the site. The term of this Permit is governed by §19.10.5 NMAC.

**Section 10. CONCLUSIONS OF LAW**

- A. The Director has jurisdiction over the Permittee and the subject matter of this proceeding.
- B. PAP 09-1 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. PAP 09-1 is complete, accurate, and complies with the requirements of Section §19.10.5.505 NMAC. The Permittee is permitted, under authority of the New Mexico Mining Act, to conduct mining and reclamation operations at the Tyrone Mine, Grant County, New Mexico, upon the condition that the Permittee complies with the requirements of this Order, the Act, the Rules, and Permit No. GR010RE and all revisions thereof and modifications thereto.

**CERTIFICATION**

I certify that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals responsible for obtaining the information; I believe the submitted information is true, accurate, and complete.

I certify that I have read, understand, and will comply with the requirements of this Permit Revision 09-1. I also agree to comply with the performance and reclamation standards and requirements of the Permit, the Rules, and the Act, and allow the Director to enter the permit area without delay for the purpose of conducting inspections.

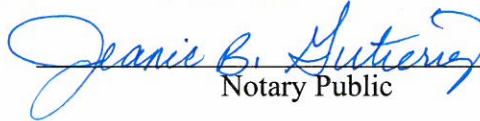


Authorized Representative of the Permittee

President, General Manager  
Title

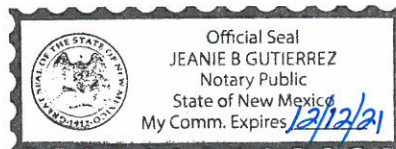
Freeport-McMoran Tyrone Inc.  
Company

Subscribed and sworn to before me this 29 day of March, 20 21

  
Notary Public

My Commission Expires


December 12, 20 21



**ORDER**

NOW THEREFORE, IT IS HEREBY ORDERED that reissued Permit No. GR010RE, incorporating the Closeout Plan and allowing Tyrone to conduct closeout and reclamation operations in Grant County, New Mexico, is approved. The Permit may not be transferred without approval by the Director. The Permit is subject to all conditions set out in the Director's Findings of Fact, General Obligations and Conditions, Conclusions of Law, and Order.

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

By:   
\_\_\_\_\_  
Jerry Schoeppner, Director  
Mining and Minerals Division  
Energy, Minerals and Natural Resources Department

Date: 3/29/2021



## Appendix A

### Seeding Methods and Revegetation Standards

#### Seeding Methods

After placement of RCM on top slopes 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 shall be certified 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. National Resources Conservation Service or alternative equivalent standards.

#### Seed Mix

The primary reclamation seed mix proposed for the Tyrone Mine includes warm season grasses, perennial shrubs, and forbs. A list of alternate or substitute species is included if some species on the primary list are unavailable is included. 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.

A list of species for the seed mix is included in *Table 7-1: Proposed Interim Seed Mix and Rates for the Tyrone Mine Reclamation Sites* of the CCP 2020 Update:

**Table 3. Primary seed mix and seeding rates for Tyrone**

Species	Life-Form	Duration	Seasonality	Rate <sup>ab</sup>
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</i> sp.)	Forb	Perennial	NA	0.1
Blue flax ( <i>Linum lewisii</i> )	Forb	Perennial	NA	0.25
<b>Total PLS (lbs/ac)</b>				<b>5.6</b>

<sup>a</sup>Seed 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.

<sup>b</sup>Rate is in pounds of pure live seed (PLS) per acre; Substitutions may change seeding rates.

NA = not applicable.

**Table 4. Alternate or substitute species list for the proposed seed mix**

<b>Species</b>	<b>Life- Form</b>	<b>Duration</b>	<b>Seasonality</b>
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
Yellow bluestem ( <i>Bothriochloa ischaemum</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

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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
Tanseyleaf 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>Dasyllirion wheeleri</i> )	Shrub	Perennial	NA
Rubber rabbitbrush ( <i>Chrysothamnus 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 5. Functions and Attributes of the Primary Plant Species  
for the Tyrone Mine Reclamation Sites**

Species	Character <sup>a</sup>	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

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Apache plume ( <i>Fallugia paradoxa</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</i> spp.)	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

<sup>a</sup>N = 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 Tyrone 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

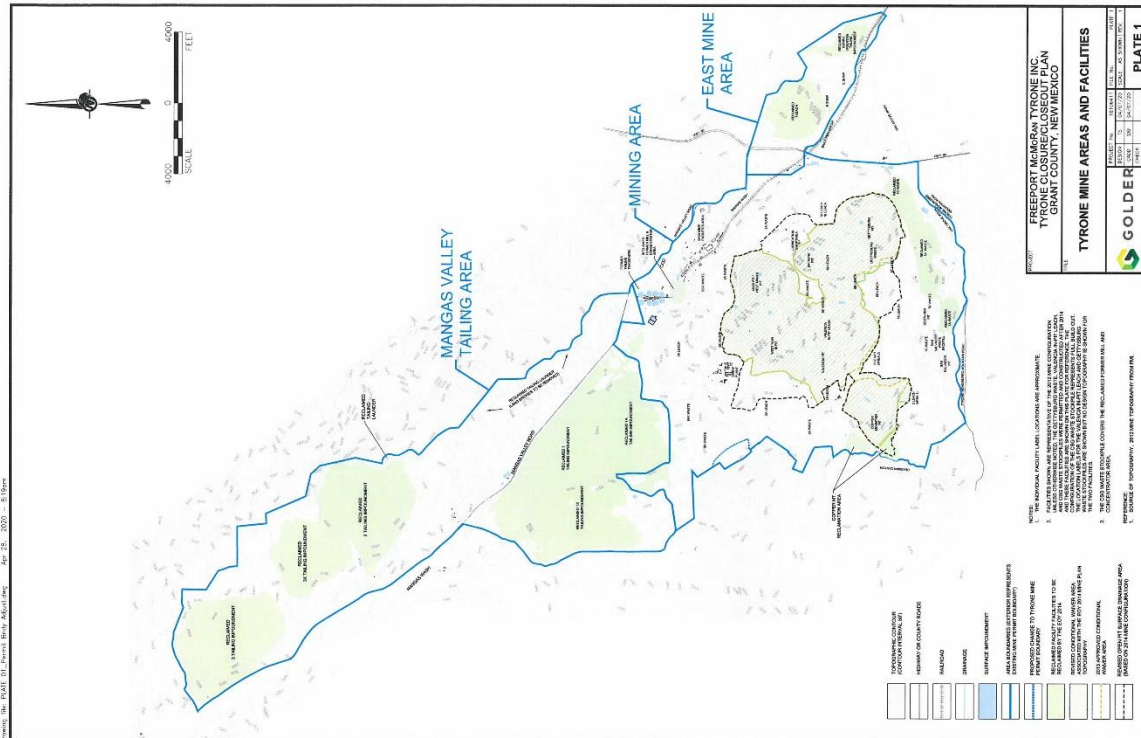
The plant diversity standard is shown below and shall be utilized for the Tyrone Mine. These standards for canopy cover, shrub density, and plant diversity shall be applicable to the naturally revegetated areas as well.

<b>Class</b>	<b>Seasonality</b>	<b>Number</b>	<b>Minimum Occurrence (% Cover)</b>
Perennial Grass	Warm	3	1.0
Perennial Shrub	NA	2	1.0
Perennial Forbs	NA	2	0.1

NA = not applicable.

### 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 reseeded, 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.



**Map 1: 2020 Pit Waiver Evaluation** (from Tyrone Stockpile Open Pit Waiver Update for 2020; Mining Act Permit No. GR010RE, dated August 26, 2020)

