

**PERMIT REVISION 01-1 TO PERMIT NO. GR010RE
TYRONE MINE
EXISTING MINING OPERATION**

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

Permit Revision 01-1 to Permit No. GR010RE is issued by the Director of the Mining and Minerals Division (MMD) of the New Mexico Energy, Minerals and Natural Resources Department to:

Phelps Dodge Tyrone, Inc. (Tyrone)
Whose correct address is: P.O. Drawer 571
Tyrone, NM 88065

(Permittee) for the Tyrone Mine and Plant Site located in Grant County, New Mexico.

This Permit Revision incorporates the Closeout Plan for the Tyrone Mine, Permit No. GR010RE. The following sections of Permit No. GR010RE are added or revised to read as follows:

Section 1. STATUTES AND REGULATIONS

This Permit is issued pursuant to the New Mexico Mining Act, NMSA 1978, §69-36-1, et seq. (Repl. Pamp. 1993)

This Permit is subject to all applicable requirements of the New Mexico Mining Act (Act), New Mexico Mining Act Rules Title 19, Chapter 10, Parts 1 through 14 NMAC (Rules), and any other regulations, which are now, or hereafter in force under the Act; and all such requirements and regulations are made a part of this Permit by this reference.

Section 1a. PERMIT APPLICATION PACKAGE

A. The Permit Application Package (PAP) is comprised of the following documents:

See Appendix A

B. The Permit Revision Package (PRP) is comprised of the following documents:

See Appendix B

Section 2.

PERMIT AREA AND DESIGN LIMITS

- A. The Permit area encompasses all or portions of the following areas: Sections 17, 18, 19, 20, 21, 28, 29, 30 T18S, R15W; Sections 3, 4, 5, 8, 9, 10, 11, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, T19S, R15W; Sections 19, 20, 29, 30 T19S, R14W in Grant County, New Mexico (NMPM), as delineated in Figure 2 of the Permit Application Package (PAP). The Permittee shall conduct mining and reclamation operations only on those lands designated in the PAP, in the Application for an Existing Mining Operation, submitted December 30, 1994, on the following figures:
1. Figure 1, *Proposed Permit Boundaries and Unit Design Limits*, December 30, 1994 (excluding the Little Rock Unit)
 2. Figure 2, *Proposed Permit Boundaries and Unit Design Limits*, December 30, 1994 (excluding the Little Rock Unit)

The following figure from the March 15, 2000 Permit Modification revises a portion of the Permit boundary shown in the figures above:

3. Figure 1, *Existing Facilities – Copper Mountain Stockpile Project*, March 6, 2000.
- B. The approved design limits are identified in the PAP on Figures 1 and 2, (excluding the Little Rock Unit) and individually identified in section 3.5 of the Application for an Existing Mining Operation, submitted December 30, 1994. The units shown on Figures 1 and 2 and identified in section 3.5 of Application for and Existing Mining Operation are approved as existing units and are subject to the reclamation standard of §19.10.5.507.A NMAC absent a waiver under §19.10.5.507.B NMAC. The approved design limits also include the area as displayed in Figure 1 of the March 15, 2000 Permit Modification.
- C. The map(s) to be approved for Condition T.2 of this Permit Revision shall replace the three maps listed in Section 2.A and shall serve as the final Permit area and design limit delineation.

Section 3.

FINDINGS OF FACT

- A. The Permit Application and Closeout Plan are complete and contain all of the information required, with the conditions outlined in this revision document, as required by §19.10.5.503.F(1) and §19.10.5.506.J(1)-(6) NMAC.
- B. 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.
- C. The Permittee has provided the required signature and certification, as required by

§19.10.5.503.F(3) NMAC.

- D. The Permittee is in compliance with §19.10.2 NMAC regarding fees.
- E. Public notice for the Permit Application was provided as required by §19.10.9 and §19.10.5.503.F(5) NMAC. Public notice for the Closeout Plan Permit Revision was provided as required by §19.10.9 and §19.10.5.506.J(1) NMAC.
- F. The Permittee has provided satisfactory financial assurance to complete the Closeout Plan in the amount of \$270,775,013 required by §19.10.5.506.J(2) NMAC. The financial assurance instruments are in forms acceptable to the Director.
- G. The approved Post-Mining Land Uses (PMLU) for the Permit area are wildlife habitat and industrial in accordance with Conditions D.4, E.4 and I.1. The industrial PMLU areas are identified in Appendix D and displayed in the figures within the January 22, 2003 letter from Tyrone to MMD. These figures shall be updated per Condition I.1(d). The Closeout Plan, subject to conditions in this Permit Revision, demonstrates that the work to be done will reclaim disturbed areas within the Permit area to a condition that allows for the re-establishment of a self-sustaining ecosystem on the Permit area following closure, appropriate for the life zone of the surrounding areas, except those areas designated as industrial PMLU or granted a waiver pursuant to §19.10.5.507.B NMAC.
- H. Pursuant to §19.10.5.506.J(5) NMAC, the Secretary of the Environment Department provided a written determination on April 12, 2004, stating that the Permit applicant has demonstrated that the activities to be permitted or authorized will be expected to achieve compliance with all applicable air, water quality, and other environmental standards if carried out as described in the Closeout Plan.

Section 4. **DEFINITIONS**

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:

"Cessation of Operation" means any cessation of operation of the Tyrone Mine that is not part of normal mining operations or is due to bankruptcy or abandonment and includes without limitation shut down of all facility operations. A Cessation of Operation may occur for a portion of the Tyrone Mine Facility when a major discrete portion of the operation is shut down when there is no intent to resume operation. Examples of shut down of major discrete portions of facility operations are: cessation of discharges to an individual Tailing Impoundment, cessation of mining in an individual Open Pit, cessation of waste rock deposition to an individual Waste Rock Pile, cessation of leaching operations at an individual Leach Ore Stockpile, cessation of ore processing at the mill and concentrator, or cessation of copper extraction at the SX/EW plant.

“Closeout Plan” means the Permit Revision to Permit GR010RE that provides a detailed description of how disturbed areas within Permit area will be reclaimed to meet the requirements of the Act and the Rules. “Closeout Plan” also means those documents listed in Appendix B.

“DP-27 Settlement Agreement” means the document signed by Tyrone and NMED on October 15, 2003 regarding the reclamation of the Tyrone Mangas Valley Tailing Impoundments.

“DP-1341” means the supplemental discharge permit for closure issued by NMED to Tyrone.

“Effective Date” means the date of the Director of MMD’s Order approving this Permit.

“Interbench Slope” means the angle of the sloped ground surface measured between terrace benches (crest and toe) or between a terrace bench and any engineered conveyance system.

“MMD” means the New Mexico Mining and Minerals Division of the New Mexico Energy, Minerals and Natural Resources Department.

“NMED” means the New Mexico Environment Department.

“NMMA” means the New Mexico Mining Act, NMSA 1978, §69-36-1, et seq. (1993, as amended through 1999)

“Open Pits” means the areas from which ore bearing and waste rocks were exposed and removed by surface mining methods. Open pit areas include the Main, West Main, East Main, Valencia, Gettysburg, Copper Mountain, South Rim, San Salvador Hill and Savanna. Previously mined and now partially or completely backfilled pits include the San Salvador Hill, Virginia Racket, West Racket, East Main, Gettysburg Entry and BA-O. Outcrops of stockpiled material that are located within the pit wall boundary of an Open Pit shall be considered as part of the Open Pit.

“Outslope” means the sloped portions of material around the perimeter of Waste Rock Stockpiles, Leach Ore Stockpiles, and Tailing Impoundments.

“Order” means the Director of MMD’s Order approving the Permit or Permit Revision.

“Permit” means the original permit, GR010RE, issued to Tyrone by MMD dated July 10, 1996.

“Permit Revision” means Permit Revision GR010RE 01-1, originally applied for as GR010RE 97-1, which sets forth and approves a Closeout Plan for the Tyrone mine and mill facility.

“Reclamation” means the employment during and after a mining operation of measures designed to mitigate the disturbance of affected areas and Permit areas and to the extent practicable, provide for the stabilization of a Permit area following closure that will minimize future impact to the

environment from the mining operation and protect air and water resources. This definition shall not supercede the definition as stated in §19.10.1.7.R (1) NMAC.

“Rules” means Title 19, Chapter 10, Parts 1 through 14 NMAC, and any amendments thereto.

“Self-Sustaining Ecosystem” means reclaimed land that is self-renewing without augmented seeding, amendments, or other assistance, which is capable of supporting communities of living organisms and their environment. A self-sustaining ecosystem includes hydrologic and nutrient cycles functioning at levels of productivity sufficient to support biological diversity. This definition shall not supercede the definition as stated in §19.10.1.7.S (2) NMAC.

“Slope Angle” means the ratio of the horizontal run compared to the vertical rise, measured in equivalent units, usually feet, along the steepest inclination of the physical surface (i.e., a 3:1 slope refers to 3 horizontal units to 1 vertical unit).

“Stockpile” means all leach ore stockpiles and other rock piles associated with mining disturbances at the Tyrone Mines Facility that have been leached, are currently being leached or have been placed in a pile for the purpose of being leached. These include In-pit and Leach Ore Stockpiles. This also includes all non-leach material (waste rock) from the Open Pit.

“Surface Impoundments” means all impoundments used for storm water control, process water make-up, seepage collection, emergency water management and PLS collection.

“Tailing Impoundments” means the tailing impoundments owned and operated by Tyrone located near the town of Tyrone in Grant County, New Mexico, which are part of the Tyrone Mine Facility. Tailing Impoundments include Impoundment 1, Impoundment 1A, Impoundment 1X, Impoundment 2, Impoundment 3, Impoundment 3X and the Burro Mountain Tailing Impoundment.

“Temporary Cessation of Mining” means the suspension, with the intent to resume ore and waste excavation/extraction, haulage, and placement of material from an Open Pit or the suspension, with the intent to resume ore processing/treatment technologies utilizing the leaching and solution extraction electrowinning process or milling and concentration of ore bearing minerals through physical beneficiation.

“Tyrone” means Phelps Dodge Tyrone, Inc., a New Mexico corporation.

Section 6. **AGENCY RIGHT OF ENTRY**

- A. The Permittee shall allow the authorized representatives of the Director to enter as provided for in §19.10.5.503.F(6), §19.10.11.1101, and §19.10.12.1210 NMAC.

Section 7. **PERMIT COVERAGE**

This Permit shall be binding on any person or persons conducting mining and reclamation operations under this Permit.

Section 8. **COMPLIANCE WITH THE PERMIT AND OTHER PERMITS**

The Permittee shall conduct mining and reclamation operations only as described in the approved PAP, PRP, the Permit, and any revisions or modifications approved by the Director. The Permittee shall comply with any and all conditions that are incorporated into the PAP or PRP. The Permittee and MMD have exchanged various correspondences between June 1994 and the date this Permit is approved regarding the proposed mining and reclamation operations and the conditions of this permit. The Permittee and MMD may utilize correspondence during the relevant period, which has not been incorporated into the PAP or the PRP to interpret the plans for the proposed mining and reclamation operations and the conditions of this Permit, including the PAP and the PRP. The following portions of DP-1341 are incorporated into this Permit: Section III, Conditions No. 3 through No. 38, Nos. 51, 53, 54, 62, 63, 75, 76 and 89. Future submittals required by this Permit shall be presented in either electronic or written form to the Director for approval. The MMD reserves the right to request written or "hard copy" documents in addition to electronic submittals, if necessary.

Section 9. **GENERAL OBLIGATIONS AND CONDITIONS**

The conditions outlined in this section are required for the Permittee to meet the requirements of the New Mexico Mining Act Rules.

This Permit is subject to the following conditions:

- A. The Permittee may be subject to enforcement action according to §19.10.11 NMAC for failing to conduct reclamation and closeout operations as described in the Closeout Plan or for failing to submit any of the following:
 - 1) annual reports as required by §19.10.5.510 NMAC;
 - 2) annual fees as required by §19.10.2.202 NMAC.

- B. The Permittee shall include in the annual reports, information required by §19.10.5.510 NMAC. In addition, the following information shall be included:
 - 1) the status of closure activities for each unit;
 - 2) any maintenance and repair work conducted for any closure component;
 - 3) the date the work was done;
 - 4) vegetative monitoring data as described in Appendix C;
 - 5) vegetative monitoring data collected on re-vegetated areas;
 - 6) meteorological data collected for the Tyrone Mine;
 - 7) monitoring results of pit wall stability as described in Condition F.2.c.

- C. The Permittee shall notify MMD 30 days prior to performing any permanent closeout/reclamation activities at the mine site.

D. TAILING IMPOUNDMENTS

The following conditions apply to Tailing Impoundments 1, 1A, 1X, 2, 3, and 3X, identified on drawings Tyrone-01 through Tyrone -07, Appendix B, *End of Year 2001 Through Year 2008 Closure/Closeout Plan, Tyrone Mine*, M3 Engineering & Technology Corporation, May 2001 and also the Burro Mountain Tailings area, identified on Plate 7 of the *Revised Closure/Closeout Plan Tyrone Mine Plate Atlas*. April 29, 1999. The conditions for tailing impoundments are required to mitigate the disturbances within the Permit area and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources in accordance with §19.10.1.7.R(1)NMAC. The conditions are also required to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by §19.10.5.507.A NMAC and to meet applicable environmental standards as required by the Secretary of the Environment Department pursuant to §19.10.5.506.J(5) NMAC. In addition, the following DP-1341 Conditions shall be incorporated in this section of the Permit Revision: No. 9 through No. 20, Nos. 59, 62, 63, 77 and 84.

Stormwater management must be consistent with EPA (Environmental Protection Agency) NPDES (National Pollutant Discharge Elimination System) requirements. These specifications may be modified in the final design based on the New Mexico Office of the State Engineer (OSE) and MMD approval.

1. Surface Shaping and Stormwater Management

- a) The Permittee shall regrade these units in a manner that promotes positive drainage and eliminates, to the extent practicable, ponding on the top surfaces and final cover surfaces. The Permittee shall construct the top surfaces and final cover surfaces of tailing impoundments to a final grade of 0.5% to 5% to direct stormwater to spillways and water management conveyances. Tyrone shall provide other erosion controls if required by the MMD. The slopes of all tailing impoundments shall be regraded to Interbench Slopes no steeper than 3:1 Slope Angle unless the Permittee can demonstrate with documented concurrence from the OSE that regrading the slopes will yield an unacceptable factor of safety for slope stability.
- b) Terrace benching on Tailing Impoundment slopes shall be constructed at slope lengths of no greater than 100 feet. The Permittee shall provide MMD with detailed plans for stormwater management and best management practices for erosion control for MMD approval, not less than 180 days before implementation of construction activities. The Permittee shall design, construct, and maintain practices for erosion control identified by the U.S. Natural Resource Conservation Service or alternative equivalent best management practices.
- c) Designed channels for drainage control and sediment containment will be established on the reclaimed areas. The designed channels will be constructed to minimize the gradient and reduce flow velocities. These water diversion structures will be designed for a 100-year, 24-hour storm event or an alternative criterion approved by

the MMD in consultation with other state or federal agencies.

- d) Spillways shall be constructed with PVC-coated wire for the boxes and mattresses. Filter fabric shall be placed beneath the Gabion mattresses of the spillway chute. During final design spillway velocities will be confirmed and slopes adjusted as required by MMD. Final design plans for drainage and diversion structures shall be submitted for MMD approval 180 days prior to implementation.

2. Cover Placement Plan

- a) Cover material for the Tailing Impoundments shall consist of an MMD approved suitable plant growth medium such as Gila Conglomerate. Cover material for the top surfaces and outslopes of the Tailing Impoundments shall be placed at a minimum thickness of 36 inches, provided that the Permittee may proceed with the installation of a cover in accordance with the requirements of the DP-27 Settlement Agreement, and the schedule set forth in Condition P, Table 1, and the Permittee may seek a change to the minimum thickness requirement of 36 inches consistent with the requirements of DP-1341, and the DP-27 Settlement Agreement, as provided in this paragraph. The characteristics of the cover material shall be supportive of a self-sustaining ecosystem. Required textural characteristics and cover depth of the cover material shall be determined through future test plot studies as described in Condition L.1. A modification to the Permit may be necessary pursuant to Condition L.1(e). The Permittee may propose an alternative cover system if future studies and test plots demonstrate, as provided by Condition L.1(e), that the alternative cover system will meet requirements of the Rules and for MMD approval. Design specifications in Section D.2 may be modified during the final engineering design with MMD approval.
- b) Gila Conglomerate, or other approved material for cover such as alluvium, shall be excavated from borrow pits for use as cover material.
- c) All areas used for borrow material sources shall be graded for stormwater control, ripped and/or covered with topdressing to an overall minimum depth of 24 inches, and revegetated according to the requirements of Appendix C. All slopes and high walls created by excavation of borrow pits shall be no steeper than 3:1.

3. Construction Quality Assurance Plan

- a) The Permittee shall submit a construction quality assurance (CQA) plan to MMD for approval not less than 180 days prior to regrading of slopes and placement of any cover material over any Tailing Impoundment zone for final closure. Detailed engineering designs addressing slopes surface erosion controls and stormwater management structures including riprap-lined channels shall be submitted for MMD approval. The CQA report shall include, a description of work to be conducted, soil

testing results, laboratory analytical reports and identification of the location of borrow areas. Design specifications in Condition D.1 may be modified during the final engineering design with MMD approval.

- b) The CQA 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 final design specifications for slopes, covers and for stormwater management structures. The 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 feet for the Outslopes, and construction photographs.

4. Revegetation Plan

Top surfaces and Outslopes of Tailing Impoundments shall be revegetated in accordance with revegetation standards set forth in Appendix C.

5. Post-Mining Land Use

The PMLU for the Tailing Impoundments shall be wildlife habitat and compliance with §507.A of the Rules shall be achieved by the following:

- a) vegetation in the reclaimed areas shall meet approved MMD revegetation standards of Appendix C;
- b) wildlife use shall be documented by conducting wildlife surveys including, but not limited to, deer pellet count surveys and bird diversity surveys;
- c) the results of the wildlife surveys shall not be a condition of or given consideration with regard to financial assurance release; and
- d) the Permittee shall establish wildlife habitat features such as rock piles and/or brush piles to promote floral and faunal diversity.

E. STOCKPILES

The following conditions apply to all Stockpiles at the mine site, as listed on Figures 5-3 and 5-4 of the May 2001 Closeout Plan (the No. 1, 1A, 1B, 2, 2A, 3, top surfaces only of the East Main Pit, top surfaces only of the Main Pit, Gettysburg Out-Pit and the top surfaces only of the Gettysburg In Pit Stockpiles, No. 1C, 1D, 3B, a portion of the 2B, and the proposed 9A). The conditions for Stockpiles 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 §19.10.7.R(1) NMAC. The conditions are also required to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by §19.10.5.507.A NMAC and to meet applicable environmental standards as required by the Secretary of the Environment Department pursuant to §19.10.5.506.J(5) NMAC. In addition, the conditions are required to reclaim the Permit area in accordance with Ground Water Discharge Permit DP-1341.

Specifications contained in these conditions may be modified during final design with MMD approval.

1. Surface Shaping and Stormwater Management

- a) The Permittee shall regrade the Stockpiles in a manner that ensures positive drainage and eliminates, to the extent practicable, ponding on the top surfaces and final cover surfaces. The Permittee shall construct the top surfaces and final cover surfaces to a final grade of 0.5% to 5% to direct stormwater to water conveyances and provide other erosion controls if required by MMD.
- b) Terrace benching on Stockpile slopes shall be constructed at slope lengths of no greater than 300 feet. Terrace benches shall be a maximum of 50 feet wide, inclined 1% to 5% towards the slope face and have a longitudinal slope of no greater than 5%. Terrace benches shall include slope channels at the intersection of benches and slope faces to convey stormwater collected on the Leach Ore Stockpile and Waste Rock Pile slopes to detention ponds or outlet channels located at the slope toes or beyond. Surface water diversion ditches shall be constructed between terrace benches to convey stormwater off the slope surfaces to the slope channels. The Permittee shall provide MMD with detailed plans for stormwater management and best management practices for erosion control for MMD approval, at least 180 days before implementation. The Permittee shall design, construct, and maintain best management practices for erosion control identified by the U.S. Natural Resource Conservation Service or alternative equivalent standards.
- c) The Permittee shall construct an alternating slope-bench configuration on all Stockpile Outslopes. Each individual Interbench Slope segment shall have a Slope Angle no steeper than 3:1, unless alternative regrading, cover, and revegetation designs are demonstrated through studies and field-testing to allow for re-establishment of a self-sustaining ecosystem that can meet the standards addressed in Appendix C, and the requirements of §19.10.1.7.R(1) NMAC. Stockpile Outslopes encompass exterior slopes as well as interior slopes that face the open pit.
- d) In the event that such regrading of an individual slope would result in the intersection of designated Surface Water of the State or a highway, Tyrone may regrade such slope to Interbench Slopes steeper than a 3:1 Slope Angle, as necessary to avoid the intersection, but in no event steeper than Interbench Slope Angle of 2.5:1 unless alternative regrading, cover, and revegetation designs are demonstrated through studies and field testing to allow for re-establishment of a self-sustaining ecosystem or post-mining land use, as provided by Condition L.2.
- e) The Permittee shall provide run-on control and positive drainage to all stockpile material relocated due to toe constraints.
- f) Terrace benching on 2.5:1 Interbench Slopes shall be constructed at slope lengths of

no greater than 175 feet, respectively. Terrace benches shall be a maximum of 50 feet wide, inclined 1% to 5% towards the interior portion of the Outslope face immediately above it, and have a longitudinal slope of no greater than 5%.

- g) Surface water diversion ditches shall be provided on Outslopes to adequately convey stormwater to detention ponds or outlet channels located at the Outslope toe or beyond. Diversion ditches, detention ponds, and outlet channels shall be lined with riprap. Diversion ditches of maximum 5% longitudinal slope shall be constructed. Riprap lining shall consist of well-graded rock fragments.

2. Cover Placement Plan

- a) Stockpile top surface and Outslopes shall be covered with a total of 36 inches of cover material. The textural characteristics of the cover material shall be supportive of a self-sustaining ecosystem. Textural characteristics of the cover material shall be determined through future test plot studies. A modification to the Permit may be necessary pursuant to Condition L.1 (e). Design specifications in Condition E.2 may be modified during the final engineering design with MMD approval.
- b) Gila Conglomerate, or other approved material for cover, shall be excavated from borrow pits identified in the Borrow Materials investigation report as required by Condition L.5 in this Permit Revision.
- c) All areas used for borrow material sources, excluding the 1D Stockpile, shall be graded for stormwater control, ripped and/or covered with topdressing to an overall minimum depth of 24 inches, and revegetated according to the requirements of Appendix C. All slopes and high walls created by excavation of borrow pits shall be no steeper than 3:1.

3. Construction Quality Assurance Plan

- a) The Permittee shall submit a construction quality assurance (CQA) plan to MMD for approval not less than 180 days prior to regrading of slopes and placement of any cover material over any stockpile for final closure. Detailed engineering designs addressing slopes, surface erosion controls and stormwater management structures including riprap-lined channels shall be submitted for MMD approval. The CQA report shall include, a description of work to be conducted, soil testing results, laboratory analytical reports, identification of the location of borrow areas. Design specifications in Condition D.1 may be modified during the final engineering design with MMD approval.
- b) The CQA 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 final design specifications for

slopes, covers and for stormwater management structures. The 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 feet for the Out slopes, and construction photographs.

4. Revegetation Plan

Top surfaces and Out slopes of Stockpiles, with the exception of those areas for which a waiver from the self-sustaining ecosystem requirements has been granted, shall be revegetated in accordance with revegetation standards set forth in Appendix C.

5. Post-Mining Land Use

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

- a) vegetation in the reclaimed areas shall meet approved MMD revegetation standards of Appendix C;
- b) wildlife use shall be documented by conducting wildlife surveys including, but not limited to, deer pellet count surveys and bird diversity surveys;
- c) the results of the wildlife surveys shall not be a condition of or given consideration with regard to financial assurance release; and
- d) the Permittee shall establish wildlife habitat features such as rock piles and/or brush piles to promote floral and faunal diversity.

F. OPEN PITS (Conditionally Waived Areas)

The Main Pit, Savanna Pit, Gettysburg Pit and Copper Mountain Open Pits are granted a conditional waiver from the requirement of achieving a self-sustaining ecosystem pursuant to §19.10.5.507.B NMAC and §69-36-11.B.3 of the Act, but must meet the following requirements:

1. Environmental Standards

All applicable federal and state environmental laws, regulations, and standards shall be met, including pumping and treating water from the Open Pits as required by NMED pursuant to DP-1341.

2. Public Health and Safety

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

- a) Where practicable and necessary to restrict access by unauthorized personnel and provide for public safety, a berm and/or fence shall be placed around the perimeter of the pit. Within 180 days of approval of the Permit Revision, Tyrone shall submit, for

MMD approval, a map showing the locations of berms and fences to be placed around the pit. In this submittal, Tyrone shall also provide written details describing the types of berms and fencing to be used.

- b) signage posted, on fencing at 500-foot intervals and at all access points, warning of potential hazards present;
- c) 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 measures to mitigate the hazard within 30 days of identification for MMD approval.
- d) to allow pit access for maintenance activities by authorized personnel, locked gates will be placed in appropriate locations in association with the berm/fence combination.

3. **Wildlife**

- a) Tyrone shall take measures at closeout, to minimize adverse impacts to waterfowl and other wildlife, resulting from ponding or water impounded in the pit areas. Such measures will involve a hazard evaluation and then implementation of the appropriate mitigation measures to be used at closeout.

G. **OPEN PITS (Non Waiver Areas)**

The following conditions apply to the South Rim Pit, San Salvador Hill Pit and any other pit areas not included in Section F. The conditions for Open Pits 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 §19.10.7.R(1) NMAC. The conditions are also required to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by §19.10.5.507.A NMAC. The specifications contained in Section G may be modified in final engineering design with MMD approval.

1. **Surface Shaping and Stormwater Management**

- a) The Permittee shall regrade and/or backfill the Open Pits in a manner that ensures positive drainage from areas to be covered and revegetated and eliminates, to the extent practicable, ponding on final cover surfaces. The Permittee shall construct top surfaces and final cover surfaces to a final grade of 0.5% to 5% to direct stormwater away from covered surfaces and provide other erosion controls if required by MMD.
- b) Terrace benching on 2.5:1 slopes shall be constructed at slope lengths of no greater than 175 feet on the North wall of the San Salvador Hill Pit. Terrace benches shall be a maximum of 50 feet wide, inclined 1% to 5% towards the interior portion of the Outslope face immediately above it, and have a longitudinal slope of no greater than 5%. The Permittee shall provide MMD with detailed plans for stormwater

management and best management practices for erosion control for MMD approval, at least 180 days before implementation. The Permittee shall design, construct, and maintain best management practices for erosion control identified by the U.S. Natural Resource Conservation Service or alternative equivalent standards.

- c) The Permittee shall construct an alternating slope-bench configuration on all Outcrops. Each individual slope segment shall be no steeper than 2.5:1 (horizontal: vertical).
- d) Surface water diversion ditches shall be provided on the North wall of the San Salvador Hill Pit to convey stormwater off of the pit fill material. Diversion ditches, detention ponds, and outlet channels shall be lined with riprap. Diversion ditches of maximum 5% longitudinal slope shall be constructed between benches, benching and Outcrops crest, or benching and Outcrops toe. Riprap lining shall consist of well-graded rock fragments.

2. Cover Placement Plan

- a) Bottom and regraded surfaces of the South Rim Pit shall be covered with a total of at least 36 inches of cover material. The textural characteristics of the cover material shall be supportive of a self-sustaining ecosystem. Textural characteristics of the cover material shall be determined through future test plot studies. A modification to the Permit may be necessary pursuant to Condition L.1(e). Design specifications in Condition G.2 may be modified during the final engineering design with MMD approval.
- b) Gila Conglomerate, or other approved materials for cover, shall be excavated from borrow pits identified in the Borrow Materials investigation report as required by Condition L.5 in this Permit Revision.
- c) Remaining accessible roads and benches, in the San Salvador Hill and South Rim Pits, including all sources used as borrow for cover material shall be graded for stormwater control, ripped to a depth of 24 inches minimum, and revegetated according to the requirements of Appendix C. All slopes and high walls created by excavation of borrow pits, unless part of the operational pit development, shall be no steeper than 3:1.

3. Construction Quality Assurance Plan

- a) The Permittee shall submit a construction quality assurance (CQA) plan to MMD for approval not less than 180 days prior to regrading of slopes and placement of any cover material for final closure. Detailed engineering designs addressing slopes, surface erosion controls and stormwater management structures including riprap-lined channels shall be submitted for MMD and OSE approval. The CQA report

shall include, a description of work to be conducted, soil testing results, laboratory analytical reports, identification of the location of borrow areas. Design specifications in Condition G.1 may be modified during the final engineering design with MMD approval.

- b) The CQA 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 final design specifications for slopes, covers and for stormwater management structures. The 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 feet for the Outslopes, and construction photographs.

4. Revegetation Plan

Covered, ripped surfaces and the North pit wall of the San Salvador Hill Pit shall be revegetated in accordance with revegetation standards set forth in Appendix C. The flat benches of the San Salvador Hill Pit will be ripped to 24 inches depth and revegetated in accordance with the revegetation standards set forth in Appendix C.

5. Post-Mining Land Use

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

- a) vegetation in the reclaimed areas shall meet approved MMD revegetation standards of Appendix C;
- b) wildlife use shall be documented by conducting wildlife surveys including, but not limited to, deer pellet count surveys and bird diversity surveys;
- c) the results of the wildlife surveys shall not be a condition of or given consideration with regard to financial assurance release;
- d) Tyrone shall take measures at closeout, to minimize adverse impacts to waterfowl and other wildlife, resulting from ponding or water impounded in the pit areas. Such measures will involve a hazard evaluation and then implementation of the appropriate mitigation measures to be used at closeout; and
- e) the Permittee shall establish wildlife habitat features such as rock piles and/or brush piles to promote floral and faunal diversity.

H. PIPELINES AND TAILING LAUNDERS

The following condition applies to process water, PLS and raffinate pipelines, the tailing launder, sumps and associated disturbances when they are no longer needed for site operations, water treatment or water management. This condition is required to mitigate the

disturbances within the Permit area and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources in accordance with §19.10.1.7.R(1) NMAC. The condition is also required to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by §19.10.5.507.A NMAC 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.

The Permittee shall remove and properly dispose of pipelines and launders and close the associated sumps if not needed for water treatment, unless Tyrone demonstrates to NMED that leaving the pipelines in place will not result in exceedences of the standards of §20.6.1 and §20.6.2 NMAC and NMED approves of salvage or plugging, flushing and burial of the pipelines. Where pipelines or launders are buried, the cover material shall be no less than 36 inches thick. These areas shall be ripped and revegetated in accordance with Appendix C. Design specifications may be modified during final engineering design with MMD approval.

The Permittee shall inspect the pipeline and launder corridor areas for any evidence of spills and characterize the impacts during pipeline and launder removal. Where the pipeline and/or launder is removed, the corridor shall be ripped and/or covered with topdressing placed to a depth of 24 inches unless alternative closure measures are required by NMED. These areas shall be revegetated in accordance with Appendix C.

The Permittee shall propose to MMD for approval an alternative depth if results of characterization of soil contamination, as required by NMED, show that soil contamination has occurred. Prior to reclamation of the pipeline, corridors and launder, the Permittee shall submit plans for removal and reclamation for MMD approval not more than 180 days prior to implementation.

I. ANCILLARY FACILITIES

The following conditions apply to Ancillary Facilities identified in the Permit area and on Figures 2-9 through 2-13 in the Tyrone Mine Closeout Plan dated May 2001. These conditions are required in order to establish the beneficial use ("post-mining land use") on a Permit area approved by the Director pursuant to §19.10.1.7.P(5) NMAC, and to mitigate the disturbances within the Permit area and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources in accordance with §19.10.1.7.R(1) NMAC.

1. Industrial Post-Mining Land Use

The PMLU shall be industrial for the ancillary facilities and areas identified in Appendix F. These areas are approved as an industrial PMLU subject to the following conditions:

- a) The Permittee shall provide to MMD a building inspection certification signed by a professional engineer, that the buildings are 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 within 180

days of approval of the Permit Revision, and once every 5 years thereafter.

- b) The Permittee shall submit, for MMD approval, a general erosion control plan to be implemented at closeout for the area covered by the Industrial PMLU. The plan shall describe 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 plan shall be provided to MMD within 120 days of approval of the Permit Revision.
- c) The 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:
 - 1. If soil contamination exists in and around all buildings and facilities for industrial use, the Permittee must demonstrate that any required remediation has been completed for these areas to be utilized for the Industrial PMLU.
 - 2. The Permittee shall demonstrate that they have either entered into 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 can demonstrate to a reasonable certainty that such contractual commitments shall be executed either in conjunction with the release of the corresponding permit area from the Mining Act or shortly thereafter. MMD shall determine whether the Permittee has complied with those requirements.
 - 3. 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 PMLU. Such demonstration requires a stability analysis prepared by a geotechnical engineer or equivalent and may rely on previously submitted information.
 - 4. Demonstrate that revegetated areas within the Industrial PMLU provide sufficient cover to stabilize those areas where reseeding has occurred.
 - 5. Maintain documentation that the area comprising the Industrial PMLU meets NPDES requirements.
- d) Tyrone shall submit for MMD approval, updated maps (from the 1/22/2003 PDTI submittal) of the industrial PMLU areas, showing buildings and surrounding areas to be demolished and reclaimed and buildings and surrounding areas to be left for the industrial PMLU. The maps shall be submitted no later than 90 days after approval of this Permit Revision.

2. Demolition and Burial

All facilities shall be removed except those that may be left in place under an MMD-approved Industrial PMLU. Demolition, removal, and/or burial shall be accomplished by meeting requirements of the following conditions. The following conditions may be modified with MMD approval following final demolition and burial design.

- a) Where footings, slabs, walls, pavement, manholes, vaults, stormwater controls, and other foundations are not included in the Industrial PMLU, abandoned in place over non-acid-generating material (as determined by Conditions 25 and/or 27 of DP-1341), and not demolished, they shall be covered with topdressing to a depth of 36 inches minimum. Demolition specifications shall be submitted for MMD approval not less than 180 days prior to implementation. The covered foundation areas shall be graded for stormwater control.
- b) Covered footings, slabs, walls, pavement, manholes, vaults, stormwater controls, and other foundations not included in the Industrial PMLU shall be revegetated in accordance with Appendix C.

3. Electrical Distribution System

The Permittee shall remove 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 shall be removed unless left in place as raptor habitat and approved by MMD.

4. Haul Roads

The following conditions apply to all haul roads identified in the Permit area and on Figure Tyrone-11 of the Tyrone Mines Closeout Plan dated May 2001 except portions covered by the waiver. These conditions are required in order to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by §19.10.5.507.A NMAC and to meet applicable environmental standards as required by the Secretary of the Environment Department pursuant to §19.10.5.506.J(5) NMAC.

- a) Where located on non-acid-generating material, the surfaces of haul roads shall be ripped or covered with topdressing to a depth of 24 inches minimum. Where located on acid-generating material, the surfaces of haul roads shall be covered according to the requirements of Condition E.2. Culverts shall be removed on all haul roads where practicable. The ripped and/or covered surfaces shall be graded for stormwater control.
- b) Revegetation of haul roads, except for portions covered by the waiver shall be revegetated in accordance with Appendix C.

- c) The PMLU, except for portions covered by the waiver, shall be wildlife habitat and compliance shall be achieved by meeting the requirements of Appendix C.
- d) Roads required for continued site maintenance and operation will be proposed in the final closeout engineering design for approval by the MMD. These roads will be maintained at the site for access.

5. Explosives, Fuel, and Reagent Storage Areas

The 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 topdressing to a depth of 24 inches minimum, and revegetated according to the requirements of Appendix C.

6. Surface Impoundments

The Permittee shall reclaim Surface Impoundments located within wildlife habitat PMLU areas to meet wildlife habitat PMLU requirements. The Permittee shall reclaim Surface Impoundments located within industrial PMLU areas, if approved by MMD, to meet industrial PMLU requirements. In addition to PMLU requirements, Surface Impoundments shall be reclaimed to meet the following requirements:

Where soil contamination exists in Surface Impoundment soils, the Permittee shall reclaim the Surface Impoundments as required by NMED and to a condition allowing for re-establishment of a self-sustaining ecosystem or approved post-mining land use. The Surface Impoundments shall be graded for stormwater control. The Permittee shall cover the Surface Impoundment area with 24 inches minimum of topdressing, and revegetate according to the requirements of Appendix C. Where Surface Impoundments are lined; liners will be either removed, or completely buried with 36 inches of suitable cover material.

7. Mine Shafts

The Permittee shall seal and safeguard all shafts, adits, and other underground mine openings within the Permit area, unless conflicting with other agency requirements. The Permittee shall submit to MMD for approval a closure plan for underground mine openings 180 days prior to closeout activities. The Permittee shall submit to MMD for approval a bat habitat study that addresses all openings within the Permit area, including the need for and design of bat-compatible enclosures. Openings shall be sealed with bat-compatible enclosures where features are identified as important bat habitat. The study shall be submitted to MMD no less than 180 days prior to closeout activities at any opening.

8. Exploration Holes

Disturbance within the Permit area due to exploration activities shall be identified in the Closeout Plan and reclaimed in accordance with the Closeout Plan. The Permittee shall abandon and seal all exploration holes within the Permit area. Wells shall be abandoned in accordance with the OSE requirements where no longer required for post-closure operations, maintenance or monitoring. If the Permittee conducts exploration within the Permit area that

creates a new disturbance, the Permittee must identify the general areas or locations within the Permit area where exploration activities have taken place, and provide a general plan 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. In addition, the Permittee shall describe how these areas will be reclaimed and provide a schedule indicating when the reclamation work will take place.

J. OTHER NON-SPECIFIED AREAS

The following condition applies to any other disturbances within the Permit area resulting from the existing mining operation not identified specifically in the Tyrone Mines Closeout Plan dated May 2001 or this Permit Revision. This condition is required in order to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by §19.10.5.507.A NMAC.

All areas previously disturbed and not identified specifically as a mine unit or borrow area shall be graded for stormwater control, ripped to a depth of 24 inches, covered with topdressing if necessary, and revegetated according to the requirements of Appendix C.

K. ENVIRONMENTAL IMPACT STATEMENT

1. The Permittee shall submit to MMD any submittals approved by the U.S. Bureau of Land Management (BLM) under the National Environmental Policy Act. Submittals required by BLM that may affect New Mexico Mining Act requirements or are necessary for New Mexico Mining Act requirements shall be submitted to MMD for approval.
2. If any of the BLM submittals indicate that additional or alternative closeout actions are necessary to ensure the establishment of a self-sustaining ecosystem; and/or meet the requirements of reclamation defined under §19.10.1.7.R(1) NMAC, the Permittee shall submit to MMD 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.

L. ADDITIONAL STUDIES

1. Revegetation

This condition applies to non-waived Open Pits, Stockpiles and Tailing Impoundments at Tyrone. The conditions for test plots are required so that the Permittee can 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 a self-sustaining ecosystem as required by §19.10.5.507.A NMAC.

- a) The Permittee shall submit to MMD within 180 days of approval of the Permit Revision, unless already submitted as required by another agency, the *Cover Test Plot Program*

Work Plan. The Work Plan shall include an implementation schedule and take into account the Reclamation Schedule approved as part of this Permit Revision. At a minimum, the test plot study will be designed to measure and evaluate cover placement depth relative to the following: 1) plant root depth and distribution, 2) woody plant density, 3) percent canopy cover, 4) species diversity, 5) erosion rates of covered and uncovered slopes and 6) bioaccumulation of metals in plant tissue. The erosion rates concluded from this study shall be used to develop a definition of excessive erosion to be applied to Condition N.1. The test plots study shall include a fertilizer application rate. The study shall analyze cover/soil suitability parameters, including physical and hydraulic characteristics. The following parameters shall be included in the study: Depth of cover material relative to vegetation success, Slope Angle and water quality parameters as prescribed by NMED, soil suitability parameters such as pH, EC, and mobility of metals through the cover profile. The study must demonstrate compliance with New Mexico Mining Act requirements. The Permittee shall also include additional information as required by other agencies. The Permittee must establish test plots in accordance with the schedule identified in the work plan, which adequately evaluates the parameters specified in the approved workplan and this Permit Revision.

- b) The Permittee shall submit to MMD no later than 90 days after test plot construction, a report of the as-built vegetation test plots. This report shall include at a minimum a written description and maps of each of the test plots including number, size, location, and applications/parameters identified in Condition L.1(a). This information shall also be presented in tabular form. The test plot construction report should include a description of deviations from the work plan and the 2001 Closure/Closeout Plan (if any). The maps included with this report shall include the locations of the borrow sources. The report shall also include actual cover thickness data generated from a random grid-sampling regime (no less than 5 excavations per plot). The cover thickness data shall be presented in both plan view maps and in tabular format.
- c) The Permittee shall include in the Work Plan, for MMD approval, the methodologies used for vegetation surveys and statistical analysis for the test plots. The methods shall be consistent with monitoring methodologies used for reclaimed areas at the mine site.
- d) The Permittee shall submit annual reports beginning in year 2 of the study, to MMD presenting the results of the test plot study, including recommendations for improvements to the test plot study. At years 4 and 7 of test plot implementation, the Permittee shall submit a comprehensive evaluation of the test plots. The report shall provide a discussion of the success or failure of specific revegetation efforts, evaluate trends, and identify limitations to plant establishment. The study will be continued for 7 years or until MMD makes a determination in consultation with NMED that the study will be discontinued.
- e) If the results of the test plot study indicate that alternative or additional closeout actions are necessary to allow for the establishment of a self-sustaining ecosystem; and/or-meet

the requirements of reclamation defined under §19.10.1.7.R(1) NMAC, the MMD may require that the Permittee submit a request to modify or revise the Permit in accordance with §19.10.5.504.B and §19.10.5.505.B NMAC.

2. Slope Stability Study

The following condition applies to the Stockpiles: This condition is required to demonstrate that the Permit area will be stabilized at closeout and will minimize future impact to the environment and protect air and water resources in accordance with §19.10.5.507.A and §19.10.1.7.R(1) NMAC.

Within 240 days of approval of this Permit Revision, the Permittee must submit to MMD for approval, a work plan including an implementation schedule for a stability study. The study shall include a stability analysis of specific slopes and shall be designed to document how physical stabilization of the stockpiles will be achieved as part of site closeout. The study shall be based on current and future conditions of the disturbances and take into account changes in material properties from physical and chemical weathering over time. If results of the study significantly change requirements described in Condition D.1 or E.1, the MMD may require the Permittee to submit a request to modify or revise the Permit. MMD will review the information to determine if a modification or revision of this Permit is required by §19.10.5.504.B and §19.10.5.505.B NMAC.

3. Affected Areas Study

All affected areas, as defined by §19.10.1.7.A.3 NMAC, including, but not limited to the Mangas Valley Tailing Repositories (as identified on *Tyrone Repositories Site Plan Laney Canyon Repository Location 3/23/2004*), shall be reclaimed according to §19.10.5.507.A and §19.10.1.7.R(1) NMAC. The Permittee shall conduct a study to identify areas affected by mining. A work plan addressing the elements of the study, including a schedule for conducting the study, shall be provided to MMD within one year of this revision approval. If results of the study change the Closeout Plan, the MMD may require the Permittee to submit a request to modify or revise the Permit. MMD will review the information to determine if a modification or revision of this Permit is required by §19.10.5.504.B and §19.10.5.505.B NMAC.

4. Sludge Disposal Areas

The Permittee shall provide a report to MMD, for approval, identifying areas to be used for sludge disposal. The report shall also detail options for reclaiming the sludge disposal facility according to §19.10.1.7.R(1) and §19.10.5.507.A NMAC. The Permittee shall submit a work plan to complete this report to the MMD within 180 days of Closeout Plan approval, unless already submitted as required by another agency. If implementation of the work plan will change the Closeout Plan, the MMD may require the Permittee to submit a request to modify or revise the Permit. MMD will review the information to determine if a modification or revision of this Permit is required by §19.10.5.504.B and §19.10.5.505.B NMAC.

5. Borrow Materials

Within 180 days of Closeout Plan approval, the Permittee shall submit to MMD for approval a Borrow Materials Investigation Work Plan for the Stockpiles and Open Pits. The work plan shall include a schedule for completion of the report. The Borrow Materials Investigation report must include a mass balance analysis of the volume of borrow material available relative to the quantity required for reclamation. The report must include an analysis of material to be used for cover, showing physical and chemical parameters related to plant growth. The report must also identify on a map, location of borrow areas including volumes and areas of disturbance. If the study shows that material from the 1D Stockpile is acid generating, this acid generating material shall not be used as a borrow source and another source, or sources, shall be proposed.

6. 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.

M. FINANCIAL ASSURANCE

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

1. The Permittee may apply for 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 approved as a part of the Permit every five years, beginning April 2009 or sooner as required by the Director. This evaluation shall be provided to MMD with the annual report due April 30th. The evaluations shall be due 4/30/09, 4/30/14, 4/30/19, etc. If upon review of the evaluation, MMD determines that a change to the financial assurance amount or form is required, the Permittee shall submit to MMD a request to revise the Permit. The Permittee may request a change to the financial assurance in accordance with §19.10.12 NMAC.
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 as described in condition I.1.(c) of this Permit Revision .
4. Tyrone has provided financial assurance in the net present value amount of \$270,775,013 using the following forms of financial assurance pursuant to Part 12 of

the New Mexico Mining Act Rules: trust, real property collateral, surety bond, letter of credit and a third party guarantee.

(a) Trust. A Trust has been established by the Permittee pursuant to 19.10.12.1208.E NMAC, and governed by the Tyrone CCP Trust Agreement, dated April 12, 2004 between Tyrone and Wells Fargo National Bank, N.A. as the Trustee (Trust Agreement). The Director has approved the Trustee, the Trust Agreement and the permitted investments of the Trust, which are provided in the Trust Agreement. The Trust has been funded in the initial amount of \$17 million. Prior to the end of each calendar quarter, beginning with the first full calendar quarter following the initial funding, Tyrone shall deposit additional cash in the amount of \$500,000 into the Tyrone trust. Such cash deposits shall continue until a total of \$27 million has been deposited into the Tyrone trust, unless payment has been suspended as provided in Condition 9.M.4(d)(1).

(1) MMD, NMED and the Permittee shall establish a management committee composed of (a) members within State government with experience in financial matters and investments and (b) an equal number of members designated by Tyrone who shall meet annually to review the performance of the Trust and consider possible adjustments to the Trust managers and advisors and to the investment guidelines.

(2) As provided in the Trust Agreement, the cost of administering the Trust and any taxes payable to the Trust shall be paid from the Trust. Earnings on invested funds shall be retained in the Trust, except as may be distributed to Tyrone under Condition 9.M.4(d)(2) of this Permit.

(b) Collateral. Real property collateral may be offered by the Permittee and may be accepted by the Director as providing financial assurance.

(1) The sum of the amount of cash contributed to the Trust and the amount of approved collateral placed as financial assurance shall be at least 30 % of the initial financial assurance amount required for Tyrone. If the Director has not approved collateral in an amount sufficient to meet this 30% requirement as of the Effective Date of this Permit, Permittee shall maintain the Surety Bond and the Letter of Credit described in paragraphs 4(e) and 4(f) of this section in an amount sufficient to meet this 30% requirement. Upon the Director's approval of collateral in an amount sufficient to meet the 30% requirement, Permittee shall not be required to maintain the Surety Bond or the Letter of Credit. As additional cash is deposited into the Trust as provided in Condition 9.M.4(a), the amount of collateral may be reduced by the Permittee on a dollar for dollar basis. In no event shall the value of the Third Party Guarantee exceed seventy percent of the total financial assurance obligation.

- (2) The list of approved real property collateral, their locations and the amount of financial assurance provided by each property will be shown on an Exhibit to be attached. The Exhibit will be modified as properties are approved as collateral and to address any changes in approved collateral. 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, and will evaluate the adequacy of the properties.
 - (3) The Permittee shall provide an appraisal by an independent qualified appraiser for all properties. The Director shall reviewed 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.
 - (4) 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.
 - (5) 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.
 - (6) 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.
 - (7) The Permittee must annually provide a report on the current market value of the properties, and must, at least every five years, provide a new or updated appraisal of all properties remaining as collateral. The Director may require that the Permittee provide additional documents, such as updated title reports and environmental assessments, as part of any review of the collateral.
- (c) Third Party Guarantee. The balance of the financial assurance for Tyrone shall be covered by a Third Party Guarantee from the Phelps Dodge Corporation (PDC). PDC has provided a Third Party Guarantee, in a form acceptable to the Director, which is dated April 12, 2004, and which guarantees \$189,542,509 of the financial assurance

required for Tyrone. The Third Party Guarantee provides that if Tyrone fails to complete the performance requirements of this Permit, including closure and reclamation, PDC shall do so, or 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. PDC has provided the Director with audited financial statements and a Certificate of Compliance and has demonstrated financial soundness in accordance with 19.10.12.1208.G(8) NMAC.

(1) The Third Party Guarantee provides that PDC must deliver to MMD and NMED within specified timeframes certain financial documents, including PDC's financial statements contained in its Annual Report on Form 10-K and in its Quarterly Report on Form 10-Q, and any applicable financial information contained in a Current Report on Form 8-K, and together, if applicable, with amended Certificates of Compliance, and must notify MMD and NMED (a) of any change in the rating of the PDC's most recently issued senior credit obligation by Standard and Poor's or Moody's, (b) of any administrative or judicial action filed or initiated alleging the insolvency or bankruptcy of PDC or the Permittee, or alleging any violations which would result in suspension or revocation of the Guarantor's license to do business, or (c) of any increases in amounts that are being guaranteed by PDC for environmental permits issued in the U.S. for which PDC is obligated. Any failure by PDC to timely deliver or notify MMD and NMED in accordance with the terms of the Third Party Guarantee shall be a violation of this Permit.

(2) The Director may select an independent reviewer to evaluate and analyze the financial information provided or to monitor PDC's financial ability to provide a guarantee. The Permittee shall pay for any such evaluation, analysis or monitoring.

(3) At any time that PDC's financial condition is such that PDC no longer qualifies as a guarantor pursuant to the Rules or the Third Party Guarantee, the Permittee shall be deemed without financial assurance coverage. The Director shall specify to the Permittee in writing a reasonable period, not to exceed 90 days, to replace the financial assurance coverage. If adequate financial assurance is not provided by the end of the period allowed, the Permittee shall cease mining and shall immediately begin to conduct reclamation or closeout measures in accordance with the Permit. The Director may, for good cause shown, grant up to two 30-day extensions. Mining operations shall not resume until the Director has determined that an acceptable replacement financial assurance has been provided.

(d) Trust Balances and Additional Reclamation. The balance of the Trust shall be reported quarterly to the Director along with the balances of the trusts established for the Chino Mine Permit No. GR009RE and the Continental Mine Permit No. GR002RE (collectively, the PD Trusts).

1) If at the end of any calendar quarter that ends before December 31, 2008, the total balance of the PD Trusts exceeds \$109.8 million, then Tyrone shall suspend the payment of the \$500,000 due that calendar quarter under Condition 9.M.4(a) and shall use the \$500,000 for additional reclamation as provided under Condition 9.M.4(d)(3). If at the end of any succeeding calendar quarter, the total balance of the PD Trusts drops below \$109.8 million, the \$500,000 quarterly payment shall be deposited into the Tyrone Trust rather than being committed to reclamation under Condition 9.M.4(d)(3).

2) If as of December 31, 2008, the total balance of the PD Trusts exceeds \$109.8 million, and the total balance in the Tyrone Trust exceeds \$27 million, then, an amount no greater than the lesser of (a) the total amount in the PD Trusts minus \$109.8 million or (b) the total amount in the Tyrone Trust minus \$27 million may be released from the Tyrone Trust to the Permittee for use for additional reclamation at Tyrone as approved by NMED and MMD. The Permittee may request release of the funds and the funds shall be released from the Tyrone Trust upon a determination by NMED and the Director that the release of the funds will be in compliance with this section and Condition 9.M.4(d)(3) of the Permit. The release of funds under this subsection shall be a one-time occurrence and future growth in the Tyrone Trust shall be subject to the terms of the Trust Agreement. The funds authorized for release from the Tyrone Trust under this subsection shall remain in the Trust until released to cover specific reclamation expenditures as they are incurred by Permittees from time to time.

3) Quarterly payments suspended under Condition 9.M.4(d)(1), and funds released from the Tyrone Trust under Condition 9.M.4(d)(2), shall be used for reclamation at the projects identified in Table 1 of this Permit. Reclamation using these funds shall be in addition to the \$30 million required under Condition 9.P of this Permit. Tyrone shall obtain the confirmation of NMED and MMD that any proposed reclamation under this Section will be conducted in a manner consistent with the requirements of this Permit. The Permittee shall report annually to the Director regarding reclamation expenditures under this Section.

e) Surety Bond. The Permittee currently has in place a Surety Bond (#202267) in the amount of \$57,975,900 with the New Mexico Environment Department covering cost associated with the Closure Discharge Permit 1341 ("Surety Bond"). The Mining Act Rules provide that MMD shall not duplicate federal or state financial requirements so long as those financial assurance requirements are at least as stringent as required by the Mining Act Rules. Requirements imposed by DP-1341 are also included within this Permit Revision. The Surety Bond #202267 secures performance of reclamation requirements at least as stringent as those required by this Permit Revision. The Permittee is deemed to have satisfied financial assurance requirements for those requirements currently covered by the Surety Bond.

- f) Letter of Credit. The Permittee has provided an Irrevocable Letter of Credit, dated April 12, 2004, issued by Scotiabank to MMD and NMED as beneficiaries, in the amount of \$6,256,604.00. ("Letter of Credit").
5. 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 value reports or appraisals each as of the end of calendar year 2005 and the end of each calendar year thereafter, and shall provide additional financial assurance if necessary to meet the requirements of 19.10.12 NMAC and this Permit.
6. 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. The Director may require adjustment of the financial assurance as provided in 19.10.12.1206 NMAC.
7. The Permittee may only replace the Surety Bond and the Letter of Credit with collateral as described in Condition M.4(b) or another form of financial assurance acceptable to the Director and must comply with Condition M.4(b)(1) above which states that a 30% portion of the total financial assurance must be provide in collateral or cash. No portion of the Surety Bond or Letter of Credit amount can be replaced with a Third Party Guarantee.

N. **POST-CLOSURE MONITORING AND MAINTENANCE**

1. **Erosion**

The following conditions apply to the reclaimed areas. 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 also required to reclaim the permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by §19.10.5.507.A NMAC and to meet applicable environmental standards as required by §69-36-11.B(4) of the Act and §19.10.5.506.J(5) NMAC.

- a) The Permittee shall visibly inspect reclaimed lands for signs of excessive erosion and shall mitigate significant erosion features to prevent further degradation of the site. Excessive erosion shall be defined through the studies in Condition L.1.a of this Permit and Condition 54 of the DP-1341. Drainage channels, diversion structures, retention ponds, and auxiliary erosion control measures will be

inspected in accordance with nationally recognized standards of the U.S. Natural Resource Conservation Service or alternative equivalent best management practices. Inspections shall continue until the specific units are released under the New Mexico Mining Act. Inspections shall be conducted monthly for the first year following completion of reclamation construction activities for each unit, and quarterly thereafter. Reclaimed areas shall additionally be inspected for evidence of erosion after storm events of one inch or greater in any one-day period. Inspections shall continue until the specific units are released under the New Mexico Mining Act, unless continued inspections are required by other agencies.

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

2. Vegetation Monitoring

The following condition is required to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by §19.10.5.507.A NMAC 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.

The Permittee shall conduct vegetation monitoring of both volunteer revegetation and re-seeded areas during the third year after seeding. Results of the vegetation sampling 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. Monitoring shall be performed at the sixth year after planting and for 2 consecutive years prior to bond release. Revegetation monitoring shall include, at a minimum, canopy cover, plant diversity, and woody stem density. The monitoring shall be conducted to meet statistical adequacy during the 2 consecutive years prior to bond release. The canopy cover survey and woody stem density survey shall be conducted using the survey techniques approved by MMD. The Permittee shall submit a vegetation monitoring plan, for MMD approval, 90 days before vegetation monitoring is conducted.

3. Wildlife Monitoring

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

- a) deer pellet group counts shall be conducted quarterly (seasonally) beginning 3 years after reseeding; and
- b) bird diversity surveys shall be conducted quarterly (seasonally) beginning 3 years after reseeding.

Results of the surveys will be evaluated to determine wildlife use trends during re-establishment of a self-sustaining ecosystem. The Permittee shall submit for MMD approval, a wildlife monitoring workplan, identifying sampling methodologies and a map with sampling locations by December 2005. The Permittee shall consult with the New Mexico Game and Fish Department and may solicit input from other interested participants regarding the development of the workplan.

4. Notification

The 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.

O. WATER QUALITY

The Permittee shall submit to MMD a copy of any submittals approved by NMED on ground water modeling, geochemical characterization and modeling, and cover infiltration necessary for closure. The Permittee shall submit any studies required by NMED required under DP-1341 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 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.

P. RECLAMATION SCHEDULE

The Reclamation Schedule is required pursuant to §19.10.5.506.B(1) NMAC. The reclamation of units at Tyrone shall begin in accordance with the schedule identified in Table 1 below, unless earlier reclamation is required by other agencies or is initiated under the requirements below.

1. The Permittee shall expend at least \$3 million per year on reclamation activities for a consecutive ten (10) year period commencing on July 1, 2003 or until total expenditures amount to at least \$30 million. The \$3 million expended each year will be divided up among reclamation projects to be conducted at the Chino, Tyrone, and Continental Mines, operated by the Permittee.
2. Only work on those reclamation activities that are approved by the MMD and NMED shall count toward the \$30 million obligation. Projects identified on Table 1, Reclamation Schedule for Tyrone Mine, in this Permit are approved by MMD and

NMED. Any additional projects at the Tyrone mine must be approved prior to implementation.

3. Before any credit may be applied against the \$30 million obligation for reclamation activities performed, the MMD and NMED must confirm that the reclamation activities have been conducted in a manner consistent with Permit requirements.
4. In the event the Permittee does not expend the full \$3 million in any given year during the ten (10) year time period, the Permittee shall deposit any unexpended portion of the \$3 million into a trust fund approved by the MMD. In the event the Permittee expends more than the \$3 million on reclamation activities approved by the MMD and NMED in any given year during the ten (10) year time period, the excess amount shall be deducted from the \$30 million obligation and credited toward the annual expenditure obligation in future years.
5. The Permittee's performance of reclamation shall not be construed to modify or limit the Permittee's existing obligations or requirements pursuant to other state or federal permits.
6. The Permittee shall provide annual reports to the MMD and NMED of actual expenditures for reclamation.
7. The Reclamation Schedule submitted per NMED DP-1341 Condition 65, shall also be submitted to the MMD for approval.

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.

The Permittee may submit for MMD approval a request to modify or revise the Reclamation Schedule. For any unit for which the anticipated start date in Table 1 is specified as 180 days from the date of Cessation of Operations, and as of the Effective Date of this Permit Revision, the unit is in a condition of Cessation of Operation, or a Temporary Cessation of Mining, then the 180 day period shall begin to run as of the Effective Date of this Permit Revision. If the Permittee wishes to seek standby status, an application for standby shall be submitted to MMD before the anticipated start date of reclamation pursuant to the schedule in Table 1.

Table 1 **Reclamation Schedule for Tyrone**

Unit	Anticipated Start Date for Reclamation to Begin	Anticipated Duration (years)
Tailing Impoundment No. 3X	2004	2
Burro Mt. Tailings	2004	1
Tailing Repository	2004	1
No. 1C Stockpile (Oak Grove removal)*	2004	3
Concentrator/Mill Demolition	2005	2
Tailing Impoundment No. 3	2005	2
Tailing Impoundment No. 2	2006	2
Tailing Impoundment No. 1A	2008	2
Tailing Impoundment No. 1	2009	2
Tailing Impoundment No. 1X	2010	2
Tailing Impoundment Borrow Pits	1 year following completion of tailing reclamation	2
No. 3B Stockpile	180 days following Cessation of Operation	2
Savanna Stockpile	180 days following Cessation of Operation	1.5
Upper Main Stockpile	180 days following Cessation of Operation	2
No. 1C Stockpile (Final 1C Reclamation)	180 days following Cessation of Operation	2
San Salvador Pit	180 days following Cessation of Operation	2
South Rim Pit	180 days following Cessation of Operation	2
Main In-Pit Stockpile (Non Waiver area)	180 days following Cessation of Operation	2
Roads, Mine Area	180 days following Cessation of Operation	5
No. 1B Stockpile	180 days following Cessation of Operation	2
No. 1 Stockpile	180 days following Cessation of Operation	2
No. 1A Stockpile	180 days following Cessation of Operation	2
No. 2A Stockpile	180 days following Cessation of Operation	2
Gettysburg In-pit Leach Stockpile	180 days following Cessation of Operation	2
No. 3 Stockpile	180 days following Cessation of Operation	2.5
Gettysburg Out-pit Leach Stockpile	180 days following Cessation of Operation	2
East Main Leach Stockpile	180 days following Cessation of Operation	2
SX/EW Plant	180 days following Cessation of Operation	2
No. 2 Stockpile	180 days following Cessation of Operation	5
Mine Maintenance Facilities Area	180 days following Cessation of Operation	1
No. 1D Stockpile	180 days following Cessation of use as a borrow source for cover material	2

* As defined in NMED DP-1341 Condition 5.

The Anticipated Durations specified in Table 1 are based upon Cessation of Operation for the 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. For example, if Cessation of Operation occurs for the No. 1B and No. 1A Stockpiles at or about the same time, then the Anticipated Duration of reclamation for both the 1B and 1A Stockpiles would be 4 years. The maximum duration of time allowed, after adding up all Anticipated Durations, for reclaiming a series of units where Cessation of Operation has

occurred shall not exceed 15 years.

In the event that the entire operation transitions into permanent cessation, the operator will resubmit a schedule for reclamation taking into account reasonable timeframes for the reclamation of the remaining mine units. A specified time frame will be provided for the complete reclamation of the site.

Q. TEMPORARY CESSATION

If, due to a Temporary Cessation of Mining Operation exceeding 180 days, and the Permittee wishes to suspend reclamation pursuant to the schedule provided in Table 1 above, the Permittee shall submit an application for a Permit Revision for standby status pursuant to §19.10.5.505 and §19.10.7 NMAC.

R. COMPLIANCE WITH ENVIRONMENTAL PERMITS

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

S. CLOSEOUT PLAN RENEWAL

The Permittee shall submit a revised Closeout Plan no later than five years after approval of this Permit. Earlier modifications or revisions to a portion, or portions, of the Permit, may be required if the submittals or studies addressed under Conditions K, L or Q or Condition 89 of DP-1341 warrant such action.

T. CLOSEOUT PLAN FORMAT AND UPDATE

1. Pursuant to §19.10.5.505.C NMAC, the Permittee shall update the existing May 2001 Closeout Plan submittal to include the changes addressed in this Permit. The updated Closeout Plan shall be submitted no later than 24 months after approval of this permit. Along with a hard copy of the document, the Permittee shall provide an electronic copy of the updated Closeout Plan, to include all appendices, tables and figures.

2. The Permittee shall submit for MMD approval, an updated permit area boundary and design limits map which incorporates the maps referenced in Section 2.A of this Permit. (Eliminating the boundary around the Little Rock mine and incorporating the Copper Mountain modification). Tyrone shall also separately submit the updated permit area boundary and design limit map with Discharge Permit boundaries. Tyrone shall also separately submit the updated permit area boundary and design limit map with Public Lands boundaries displayed (BLM, Forest Service and State Lands). These three maps shall include township, range and section gridlines. These maps

shall be submitted no later than 90 days after approval of this Permit.

3. The Permittee shall submit, for MMD approval, an updated site facilities map. This map shall display Highway 90 and the mine entrance road. This map shall be submitted no later than 90 days after approval of this Permit.

4. The Permittee shall submit, for MMD approval, updated topographic maps of the anticipated closeout scenario, surface configuration of the permit area, per 19.10.5.506.B(3) NMAC. Overview maps and detailed maps shall be provided. At a minimum, an overview map (3' x 4') of the entire site (mine area and tailing area), the mine site by itself and the tailing area by itself (both on a 3' x 4' drawing size). The overview maps shall include township, range and section gridlines. Detailed maps of the site shall be provided for the mine/stockpile unit area and shall be at a scale no greater than 1" = 600'. The map(s) shall be submitted as part of the updated closeout plan described in Condition T.1. Detailed maps of the tailing area will be provided as part of the final design process that is currently being completed for MMD review.

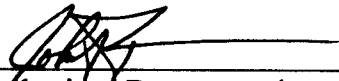
Section 10. **CONCLUSIONS OF LAW**

- A. The Director has jurisdiction over the Permittee and the subject matter of this proceeding.
- B. The PAP is complete, accurate, and complies with the requirements of the Act and §19.10.5.502 and §19.10.5.503 NMAC with conditions described in this Permit Revision document.
- C. The PRP is complete, accurate, and complies with the requirements for Closeout Plans in the Act and §19.10.5.505, §19.10.5.506, and §19.10.5.507.A NMAC. The Permittee, Tyrone, is permitted pursuant to 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 the Order, the Act, the Rules, the Permit Conditions, and requirements imposed by this Decision.

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.

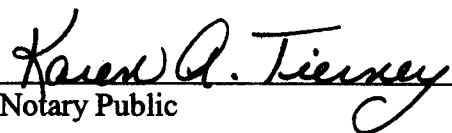
I certify that I have read, understand and will comply with the requirements of this Permit Revision. I also agree to comply with the performance and reclamation standards and requirements of the permit, the Rules, and the Act, and allow the Director to enter the Permit area without delay for the purpose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



Authorized Representative of the Permittee

President
Title
Phelps Dodge,
Tyrone Inc.
Company

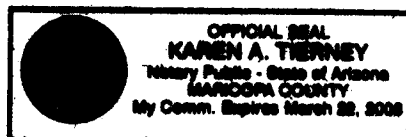
Subscribed and sworn to before me this 12th day of April, 2004



Notary Public

My Commission Expires

March 22, 2006
(date)



Draft Permit Revision 01-1 to Permit GR010RE

Tyrone Mine

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ORDER

NOW THEREFORE, IT IS HEREBY ORDERED that Permit Revision 01-1 of the Mine Permit, incorporating the Closeout Plan and allowing Phelps Dodge Tyrone Inc. to conduct closeout and reclamation operations in Grant County, New Mexico, is approved.

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

Mining and Minerals Division

The State of New Mexico

By:



Bill Brancard, Director
Mining and Minerals Division
Energy, Minerals and Natural
Resources Department

DATED: April 12, 2004

APPENDIX A
Permit Application Package

Site Assessment,
Permit Application, December 1994

Preliminary Draft Environmental Impact Statement,

Final Environmental Impact Statement,

Record of Decision, BLM,

Site maps with the following titles:

- 1) Plan View of Final Pit Configuration
- 2) Existing Mine Permit Boundary And Design Limits (8/14/98)
- 3) Existing Disturbance and Unit Areas (inside pocket of Permit app)
- 4) Tyrone Project Existing Drill Hole Locations (7/27/98)
- 5) Final Mineralogical Map

Appendix B

Permit Revision Package Documents

- 1) Director's Order to extend time for approval of Closeout Plan dated December 30, 1999.
- 2) MMD *Determination of Approvable Closeout Plan* letter dated April 12, 2004.
- 3) Phelps Dodge letter dated December 31, 2001.
- 4) Phelps Dodge Letter dated January 22, 2003: Outstanding Permitting Issues, Permit Revision 97-1 *Phelps Dodge Tyrone Inc. Permit Number GR010RE*.
- 5) Phelps Dodge Letter dated January 19, 2004: Outstanding Permitting Issues, Permit Revision 97-1 *Phelps Dodge Tyrone Inc. Permit Number GR010RE*.
- 6) Phelps Dodge Letter dated January 23, 2004: Outstanding Permitting Issues, Permit Revision 97-1 *Phelps Dodge Tyrone Inc. Permit Number GR010RE*.
- 7) Phelps Dodge Letter dated February 10, 2004: *Supplement to Application for Closeout Plan Phelps Dodge Tyrone Inc. Permit Number GR010RE*.
- 8) Phelps Dodge Letter dated February 11, 2004: *Partial Pit Backfilling Least Cost Estimate for Waiver Justification Phelps Dodge Tyrone Inc. Permit Number GR010RE*.
- 9) *Phelps Dodge Maps dated February 31, 2004: Drawings Tyrone-62 through Tyrone-74. (Pit waiver Partial Backfill scenario)*
- 10) Daniel B. Stephens & Associates. *Revised Closure/Closeout Plan Tyrone Mine Plate Atlas*. April 29, 1999.
- 11) Daniel B. Stephens & Associates. *Interim Technical Standards for Revegetation Success Tyrone and Little Rock Mines*. November 30, 1999.
- 12) M3 Engineering & Technology Corporation, March 24, 2004. *Tyrone Repositories Site Plan Laney Canyon Repository Location*.
- 13) M3 Engineering & Technology Corporation, May 2001 (and updated July 2001). End of Year 2001 Through Year 2008 Closure/Closeout Plan, Tyrone Mine.
- 14) Financial Assurance Third Party Guarantee: \$189,542,509
- 15) Financial Assurance Trust Agreement: \$17,000,000

16) Financial Assurance Surety Bond: \$57,975,900

17) Financial Assurance Letter of Credit: \$6,256,604

Volume I: Executive Summary and Regulatory/Environmental Compliance Program

Volume II: Construction Plan with Financial Assurance Estimate

Volume III: Appendices

Appendix A---Acronyms, Lexicon and Technical Abbreviations, Key Terms

Appendix B---Drawings

Appendix C---Facility Characteristic Forms

Appendix D---Bibliography

Appendix E---Reports on Borrow Material and Cover Design

- 1) Daniel B. Stephens & Associates. *Borrow Materials Investigation*. December 19, 1997.
- 2) Daniel B. Stephens & Associates. *Cover Design Study Status Report*. April 1, 1999.
- 3) Daniel B. Stephens & Associates. *Interim Technical Standards for Revegetation Success, Tyrone and Little Rock Mines*. November 30, 1999.
- 4) M3 Engineering & Technology Corporation. *RUSLE Erosion Calculations for Rhyolite and Gila Conglomerate Cover*. March 15, 2001.
- 5) Phelps Dodge Tyrone, Inc. *Interim Technical Standards for Revegetation Success, Tyrone and Little Rock Mines*. May 19, 2000

Appendix F---Reports on Structural Stability

- 1) Golder Associates, Inc. *Closure/Closeout Plan Addendum – Slope Stability Analysis*. February 24, 2000.
- 2) Golder Associates, Inc. *Response to Comments on Slope Stability Analysis, Tyrone Mine*. March 6, 2001
- 3) Golder Associates, Inc. *Summary of Long-Term Stability Analysis for Stockpiles and Tailing Ponds at the Tyrone Mine*. March 16, 2001

Appendix G---Reports on Water Issues

- 1) Daniel B. Stephens & Associates, Inc. *Preliminary Site-Wide Groundwater Study*. May 31, 1997.
- 2) Daniel B. Stephens & Associates, Inc. *Supplemental Site-Wide Groundwater Study*. November 14, 1997.
- 3) Daniel B. Stephens & Associates. *Tyrone Pit Lake Formation Modeling Report*. January 22, 1999
- 4) Daniel B. Stephens & Associates. *Correction to the Tyrone Pit Lake Formation Modeling*

Results: Predictive Pit Filling Simulation Results. September 29, 1999

- 5) Daniel B. Stephens & Associates. *Addendum to the Tyrone Pit Lake Formation Modeling Report: Predictive Pit Filling Simulation Results. June 18, 1999*
- 6) Daniel B. Stephens & Associates. *Stockpile and Tailing Pond Seepage Investigation. July 31, 1999*
- 7) Daniel B. Stephens & Associates. *Prediction of Impact on Water Quality. February 29, 2000.*
- 8) Daniel B. Stephens & Associates. *Stockpile Outslope Evaluation Work Plan – Mass Loading Model for the Tyrone Mine. September 1, 2000*
- 9) Daniel B. Stephens & Associates. *Stockpile Outslope Evaluation Work Plan – Mass Loading Modeling Results for the Tyrone Mine. September 1, 2000*
- 10) Golder Associates, Inc. *Review of Coupled Hydrologic and Geochemical Processes in Mining Wastes and Other Highly Heterogeneous Media. December 18, 2000.*
- 11) M3 Engineering & Technology Corporation. *Scoping Study, Treatment and Disposal Options for Water in Main Pit, Phelps Dodge Tyrone, Inc. December 2000.*
- 12) SARB. *Geochemical Evaluation of Tailings and Stockpiles, Tyrone Mine. December 22, 1999.*
- 13) SARB. *Geochemical Evaluation of Tailings and Stockpiles Appendices, Tyrone Mine. December 22, 1999*
- 14) SARB. *Pit Lake Water Quality Modeling, Tyrone Mine. February 29, 2000*

Appendix H---Reports on Tailings Ponds

- 1) Daniel B. Stephens & Associates. *Hydrologic and Geochemical Data Report, Tyrone Mine No. 2 Tailing Pond. July 15, 1996.*
- 2) Daniel B. Stephens & Associates. *Conceptual Redesign of the Break Area at the No. 3 Tailing Pond. June 2000.*
- 3) Golder Associates, Inc. *Conceptual Tailing Pond Surface Water Study – Tyrone Mine. March 2001.*

Appendix I---Reports on Stockpiles

- 1) Daniel B. Stephens & Associates, Inc. *Preliminary Materials Characterization. April 30, 1997*
- 2) Daniel B. Stephens & Associates, Inc. *Supplemental Materials Characterization. October 31, 1997*

Appendix J---Reports on Mine Pits

- 1) Daniel B. Stephens & Associates, Inc. *Open Pit Waiver Evaluation, Phelps Dodge Tyrone, Inc. Open Pit, Task 1: Technical and Economic Feasibility. March 1, 1999.*
- 2) Phelps Dodge Tyrone, Inc. *Open Pit Waiver Evaluation, Tyrone Mine Closure/Closeout Plan. February 25, 2000*
- 3) Phelps Dodge Tyrone, Inc. *Open Pit Waiver Evaluation, Tyrone Mine Closure/Closeout Plan. March 31, 2000*

Appendix K---Reports on Impoundments and Misc. Disturbed Areas

- 1) Daniel B. Stephens & Associates, Inc. *Post-Mining Land Use and Waiver Evaluation. December 20, 1996*

Appendix C

Seeding Methods and Revegetation Standards

Seeding methods for Tailing Impoundment Tops and Out slopes

After placement of Tailing Impoundment topdressing on tops and Out slopes in accordance with Section 9 of this revision the Permittee shall leave the seedbed in a roughened condition to reduce overland flow and promote the infiltration of water. This soil surface configuration and the high rock fragment content of the topdressing preclude the use of a drill seeder. Thus, the seed will be broadcast and covered using a chain- or tire-drag. Straw or native grass mulch will be applied at a rate of at least two tons/acre and stabilized using a tackifier emulsion or by crimping. Long-stem mulch is preferred over shorter materials. The mulch will be weed free and contain a minimum of viable seeds associated with the mulch source (e.g., barley or wheat seeds).

Seeding Methods for Stockpile Top Surfaces and Out slopes

After placement of topdressing on the Stockpile top surfaces in accordance with Section 9 of this revision, the Permittee shall leave the seedbed in a roughened condition to reduce overland flow and promote the infiltration of water. This soil surface configuration and the high rock fragment content of the topdressing preclude the use of a drill seeder. Thus, the seed will be broadcast and covered using a chain- or tire-drag. Straw or native grass mulch will be applied at a rate of at least two tons/acre and stabilized using a tackifier emulsion or by crimping. Long-stem mulch is preferred over shorter materials. The mulch will be weed free and contain a minimum of viable seeds associated with the mulch source (e.g., barley or wheat seeds).

After placement of topdressing on the stockpile Out slopes in accordance with Section 9 of this revision, the Permittee shall prepare the seedbed and seed in a manner appropriate for the slope grade. For a 3:1 Interbench Slope, the Permittee shall implement erosion control measures including but not limited to those methods described in Section 9 of this revision.

Fertilizer Application

All top surfaces and Out slopes of all Tailing Impoundments and stockpiles shall have a light fertilizer application or other means of amending the topdressing which provides necessary nutrients for plant seedling survival, at the time of seeding. Fertilizer shall be applied at a level to attain a nutrient level (N, P, and K) at least 50% of the nutrient level in the reference area. The application rate and type of nutrient amendment shall be approved by MMD at least 1 year before seeding.

The seed mix will include cool and warm season grasses, perennial forbs and shrubs. A list of species used in the seed mix is attached at the end of this Appendix. The seed mix is designed for application prior to the summer rains and the seeding should be completed in early to mid-July. The seed mix is especially designed to provide forage and cover for deer. Therefore, three cool season grasses and yellow sweet clover have been added to the list in addition to the woody browse species

to provide forage for deer during winter months.

Vegetation Success Standards And Success Monitoring

Canopy Cover A proportional canopy cover standard will be determined based on quantitative vegetation data and on the interpretation of the community structure and ecological conditions in the reference area. The numerical standard derived from the proportional standard may vary over time to account for temporal differences in canopy cover associated with climatic variations. Thus, the numerical standard may increase or decrease based on reference area measurements, but the proportional standard will remain fixed. The numerical standard for canopy cover shall be 70% of the reference area.

The reference area to be used for the vegetation success standard for the Tyrone Mine site is the reference area as shown in Figure 1 of the November 30, 1999 *Interim Technical Standards for Revegetation Success Tyrone and Little Rock Mines* report.

Shrub Density The standard for shrub density will be 60% of the shrub density in the reference area.

Plant Diversity The plant diversity standard (shown below) shall be utilized for the Tyrone Mine.

Class	Seasonally	Number	Minimum occurrence (% cover)
Perennial grass	Warm	3	1
Perennial grass	Cool	2	0.5
Perennial shrub	NA	2	1
Perennial forbs	NA	2	0.1

NA= Not applicable.

The above standards for canopy cover, shrub density, and plant diversity shall be applicable to the naturally revegetated areas as well.

Revegetation Success Monitoring

The reclaimed and reference areas will 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. Thereafter, vegetation monitoring will be conducted periodically starting three years after initial establishment of vegetation on the reclaimed lands. Vegetation will be monitored more frequently in the years prior to financial assurance release determination than in the mid-term period. The monitoring frequency will be conducted in accordance with Section 9 of this document. At a minimum, the vegetation will be monitored for two consecutive years prior to bond release.

Seed Mix

The primary reclamation seed mix proposed for the Tyrone Mine include cool and warm season grasses, perennial shrubs, and forbs (Table 4). A list of alternate or substitute species that might be used at Tyrone is included in Table 5. The species selected for the Tyrone Mine have been successfully used in mine reclamation and range improvement projects in many parts of New Mexico. With the exception of yellow sweet clover, all the species are native (Table 6), and most occur at Tyrone. Yellow sweet clover was included in the mix since it may improve the nitrogen status of the topdressing if the seed are inoculated with viable rhizobium bacteria. The seed mix was selected to provide early establishment of ground cover, erosion control, and diversity in growth forms.

The seed mix is designed for application prior to the summer rains and the seeding should be completed in early- to mid-July. The ratio of cool season to warm season grasses should be adjusted if the seeding is conducted after the summer rains.

Table 4. Proposed interim seed mix and seeding rates for Tyrone

Species^a	Life-form	Duration	Seasonality	Rate^{ab}
Blue grama (<i>Bouteloua gracilis</i>)	Grass	Perennial	Warm	0.25
Side-oats grama (<i>Bouteloua curtipendula</i>)	Grass	Perennial	Warm	1.25
Green sprangletop (<i>Leptochloa dubia</i>)	Grass	Perennial	Warm	0.15
Plains lovegrass (<i>Eragrostis intermedia</i>)	Grass	Perennial	Intermediate	0.06
Bottlebrush Squirreltail (<i>Sitanion hystrix</i>)	Grass	Perennial	Cool	1.25
New Mexico feathergrass (<i>Stipa neomexicana</i>)	Grass	Perennial	Cool	1.75
Streambank wheatgrass (<i>Agropyron dasytachyum</i> v. <i>riparium</i>)	Grass	Perennial	Cool	1.50
Apache plume (<i>Fallugia paradoxa</i>)	Shrub	Perennial	NA	0.09
Mountain mahogany (<i>Cercocarpus montanus</i>)	Shrub	Perennial	NA	1.00
Winterfat (<i>Eurotia lanata</i>)	Shrub	Perennial	NA	0.60
Yellow sweet clover (<i>Melilotus officinalis</i>)	Forb	Annual	NA	0.15
Globe mallow (<i>Sphaeralcea</i> sp.)	Forb	Perennial	NA	0.10
Blue flax (<i>Linum lewisii</i>)	Forb	Perennial	NA	0.15
Total PLS (lbs/ac)				8.30

^aSeed mix and rates are subject to change based on future investigations.

^bRate is in pounds of pure live seed (PLS) per acre; Substitutions may change seeding rates.

NA = not applicable.

Table 5. Alternate or substitute species list for the proposed seed mix

Species ^a	Life-form	Duration	Seasonality	Rate ^{ab}
Needle-and-Thread (<i>Stipa comata</i>)	Grass	Perennial	Cool	ND
Thickspike wheatgrass (<i>Agropyron dastachyum</i>)	Grass	Perennial	Cool	ND
Sand dropseed (<i>Sporobolus cryptandrus</i>)	Grass	Perennial	Intermediate	ND
Smooth brome (<i>Bromus inermis</i>)	Grass	Perennial	Cool	ND
Tobosa (<i>Hilaria muticai</i>)	Grass	Perennial	Warm	ND
Bush muhly (<i>Muhlenbergia porteri</i>)	Grass	Perennial	Warm	ND
Squawberry (<i>Rhus trilobata</i>)	Shrub	Perennial	NA	ND
Rubber rabbitbush (<i>Chrysothamnus nauseosus</i>)	Shrub	Perennial	NA	ND
Prairie coneflower (<i>Ratibida columnifera</i>)	Forb	Perennial	NA	ND
White sweet clover (<i>Melilotus alba</i>)	Forb	Annual	NA	ND

^aSeed mix and rates are subject to change based on future investigations.

^bRate is in pounds of pure live seed (PLS) per acre; Substitutions may change seeding rates

NA = not applicable.

ND= not determined.

Table 6. Functions and Attributes of the Primary Plant Species**Proposed for the Tyrone Mine Reclamation Sites**

Species	Character ^a	Attributes and Function
Blue grama (<i>Bouteloua gracilis</i>)	N,P,W,G	Sod and bunch grass providing ground over and forage
Side-oats grama (<i>Bouteloua curtipendula</i>)	N,P,W,G	Bunch grass providing ground cover and forage
Black grama (<i>Bouteloua eriopoda</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
Plains lovegrass (<i>Eragrostis intermedia</i>)	N,P,C,G	Bunch grass providing ground cover and early spring forage
Bottlebrush squirreltail (<i>Sitanion hystrix</i>)	N,P,C,G	Persistent (moderately palatable) bunch grass providing ground cover
New Mexico feathergrass (<i>Stipa neomexicana</i>)	N,P,C,G	Persistent bunch grass providing ground cover and forage
Streambank wheatgrass (<i>Agropyron dastachyum</i> v. <i>riparium</i>)	N,P,C,G	Sod-forming grass providing ground cover and forage
Apache plume (<i>Fallugia pardoza</i>)	N,P,S	Mid-height shrub providing browse, cover, and erosion control
Mountain mahogany (<i>Cercocarpus montanus</i>)	N,P,S	Mid-height to tall shrub providing browse and cover

Winterfat (<i>Eurotia lanata</i>)	N,P,HS	Low shrub providing winter browse
Yellow sweet clover (<i>Melilotus officinalis</i>)	I,A/B,F	N-fixing forb providing forage and ground cover
Globe mallow (<i>Sphaeralcea</i> sp.)	N,P,F	Persistent mid-height forb providing browse
Rubber rabbitbush (<i>Chrysothamnus nauseosus</i>)	N,P,S	Mid-height shrub providing cover and erosion control
Blue flax (<i>Linum lewisii</i>)	N,P,F	Persistent forb with a pretty blue flower

^aN = Native

I = Introduced

P = Perennial

A/B = Annual or biannual

W = Warm season

C = Cool season

G = Grass

S = Shrub

HS = Half shrub

F = Forb

Appendix D: Post Mine Land Use Building List

Description	Tag #	PMLU
General Office	MM-01	Industrial
Mine Operations Office	MM-02	Industrial
Security	MM-03	Industrial
Safety	MM-04	Industrial
HR/Training	MM-05	Industrial
Electrical Building & Chlorine shack	MM-16	Industrial
Analytical Lab	MM-18	Industrial
Tailings Thickeners	MC-01	Industrial
Reclaim Water Storage Tanks	MC-02	Industrial
Reclaim Water Pump House	MC-04	Industrial
Terminal Tanks	MC-05	Industrial
Lime Storage	MC-14	Industrial
Spigot Underflow Pumphouse	MC-24	Industrial
Tailing Pumphouse	MC-25	Industrial
Substation	none	Industrial
Raffinate Storage Tanks	none	Industrial
Truck Shop/Machine Shop/Welding Shop	MM-08	Industrial
Chapel	MM-15	Industrial
Diesel Tank Farm	MM-20	Industrial
Electrical Power Substation	MM-21	Industrial
Fire truck barn	MM-24	Industrial
Ambulance Barn	MM-25	Industrial
Radiators/Power Plant	MC-17	Industrial
Jerome building	MM-06	Wildlife Habitat
Electric Shop	MM-09	Wildlife Habitat
Pipe Shop	MM-10	Wildlife Habitat
Carpenter Shop	MM-11	Wildlife Habitat
Lumber Storage	MM-12	Wildlife Habitat
Shovel Repair	MM-13	Wildlife Habitat
Environmental Lab	MM-14	Wildlife Habitat
SX/EW Warehouse	none	Wildlife Habitat
Tankhouse	none	Wildlife Habitat
Flotation Units	MC-06	Wildlife Habitat
Secondary Crusher	MC-07	Wildlife Habitat
Mill Pumphouse	MC-08	Wildlife Habitat
SX/EW Changeroom	MC-09	Wildlife Habitat
Intermediate Ore Storage	MC-10	Wildlife Habitat
Primary Crusher	MC-11	Wildlife Habitat

Description	Tag #	PMLU
Process Water Tanks	MC-12	Wildlife Habitat
Concentrator-Filter Plant & Dryer	MC-13	Wildlife Habitat
Mill Warehouse	MC-15	Wildlife Habitat
Warehouse/Concentrate Loading	MC-16	Wildlife Habitat
Concentrator building	MC-19	Wildlife Habitat
Reagent Building	MC-20	Wildlife Habitat
Fuel Station	MC-21	Wildlife Habitat
Tire Shop	MC-22	Wildlife Habitat
Inactive Diesel Storage Tanks	MC-27	Wildlife Habitat
SX-EW Plant Area Shop	none	Wildlife Habitat
Leach Crew Office	none	Wildlife Habitat
Gonzales Cells	none	Wildlife Habitat
Jamison Cells	none	Wildlife Habitat
Organic Tanks	none	Wildlife Habitat
Mixer/Settler tanks	none	Wildlife Habitat
Tank Farm	none	Wildlife Habitat
Water Tank	none	Wildlife Habitat
Acid Tanks	none	Wildlife Habitat
MCC Building	none	Wildlife Habitat
Toolroom & Storage	none	Wildlife Habitat
Chlorinator room	none	Wildlife Habitat
2A West Raff tank	none	Wildlife Habitat
Rectifiers	none	Wildlife Habitat
Workroom	none	Wildlife Habitat
Pump Mixer Control room	none	Wildlife Habitat
Cobalt Sulfate Tank	none	Wildlife Habitat
Reagent tanks	none	Wildlife Habitat
Toolroom	none	Wildlife Habitat
Diluent Storage Tank	none	Wildlife Habitat
Pacesetter filter	none	Wildlife Habitat
Wash Pad	none	Wildlife Habitat