CHINO CLOSURE/CLOSEOUT PLAN UPDATE
CHINO MINES COMPANY
HURLEY, NEW MEXICO

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Distribution:

3 Copies, 1 Electronic - Mining and Minerals Division
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August 28, 2007
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lies along its southern edge. The system consists of 18 wells that are used to intercept groundwater at the south end of Tailing Pond 7.

The initial design maximum height of the dam is approximately 230 feet at a crest elevation of 5,475 ft amsl. The design capacity of Tailing Pond 7 is 415 million tons with an average existing exterior slope of 4(H):1(V).

2.1.9 Water Management System

Chino’s water management system provides process make-up water, process solutions, and controls stormwater. Figure 2-5 illustrates the water supply and use cycle at the mine. The system consists of the following facilities:

- production wells that supply process water;
- reservoirs for storage of process water, stormwater runoff, and some of the ephemeral flows in the major drainages (i.e., James Canyon fresh water diversion and reservoir);
- Cobre to Chino pipeline;
- various tanks and sumps that collect and store process solutions;
- diversion structures for rerouting natural drainage channels around operational facilities; and
- pipelines and pumping stations for transferring water from one location to another.

Several well fields supply much of the water used to operate the mine. These well fields include production and dewatering wells and interceptor well systems in the Santa Rita Open Pit Area, interceptor wells south of Pond 7, and production wells south and east of the tailing impoundments. Groundwater has also been pumped from underground workings in the Santa Rita Open Pit Area.

In the NMA, several reservoirs serve to control PLS, process solutions, and stormwater runoff, throughout the mine site (See Figure 2-3). Table 2-2 lists the reservoirs, impoundments, sumps, and storage tanks in operation at the mine. Chino practices water conservation through the recirculation of process water and treatment and reuse of municipal wastewater from nearby towns.
2.6.2 National Pollutant Discharge Elimination System Permit

Chino received a National Pollutant Discharge Elimination System (NPDES) permit from the U.S. Environmental Protection Agency (EPA) on August 6, 1985, which is renewed every 5 years. The permit provides for two outfalls: Outfall 001, immediately west of the former Precipitation Plant on Whitewater Creek, and Outfall 002 at the spillway of Reservoir 8 on Lompbright Draw. These sites are permitted as zero-discharge outfalls, except in cases of extreme precipitation events, when excess stormwater may be discharged if it satisfies certain water quality criteria. The most recent permit was renewed on December 14, 2006.

2.6.3 NPDES Multi-sector Stormwater General Permit

NPDES stormwater general permits cover the mine area, Hurley Operation Area, and associated facilities. To meet additional requirements, Chino has prepared a Stormwater Pollution Prevention Plan and an Emergency Response Plan. Chino’s application for coverage is for a multi-sector general stormwater permit.

2.6.4 Water Rights

Water-right permits for Chino and Cobre Mine are recorded at the New Mexico Office of the State Engineer (NMOSE) and are administratively associated with the Mimbres Underground Water Basin. Chino holds both groundwater and surface water rights, whereas Cobre only has groundwater rights. Water rights for these operations were adjudicated in 1974 according to a legal judgment known as the Salopek Decree (JSAI, 2006). The adjudication decree establishes the points of diversion and consumptive use of water from the Rio Mimbres Stream System and Mimbres Underground Water Basin. The decree also establishes the priority date, place, and purpose of use of each valid right based upon a hydrographic survey conducted in the early 1970s. Many of these water rights have been modified by more recent NMOSE permits.

Chino’s current ground-water right totals approximately 25,000 acre-feet per year (ac-ft/yr), of which 6,705 ac-ft/yr were considered perfected (proven by application to a beneficial use) in the Salopek Decree. Chino has maintained water right permits subject to Proof of Beneficial Use by submitting requests for time extensions. Chino is close to perfecting most of its ground-water rights (JSAI, 2006). Water rights associated with the Cobre Mining operation permit an average diversion of 2,313 ac-ft/yr, although annual limits can be as high as 3,280 ac-ft/yr.
Almost all of the water rights within Chino owned lands are designated for industrial, stock, domestic and municipal use. Industrial use includes manufacturing processes and pollution control related to mine operations. The NMOSE considers that all water Chino diverts for industrial, stock, domestic, and municipal uses is completely consumed and accounts for no return-flow credit. The majority of Cobre's water rights are for mining, milling, and related mining uses with some designated for stock and domestic use. Currently, the place and purpose of use for Cobre's water rights also applies to Chino operations and property.

The NMOSE requires that a new permit application be filed to change point of diversion for an existing water right such as replacement of production and pollution control wells. An NMOSE application to change the point of diversion is subject to public notice and comment.

2.6.5 Air Quality

The New Mexico Air Quality Control regulations and Clean Air Act Title V permit program apply to the Hurley Operation Area. Air Quality Permit 298-M-3 from NMED regulates the Concentrator circuit and was last modified on April 28, 1994 to allow an increase in the average amount of ore processed from 50,000 to 60,000 tons per day. This permit covers particulate emissions and limits and mandates emission control devices and records of daily and annual production. Air quality permitting from NMED regulates the SX/EW Plant to allow emissions of volatile organic compounds (VOCs). Permit renewal is not required unless changes are made in the systems that increase emissions. The new Title V permit, issued May 23, 2007, covers the Hurley Operation Area and the NMA.

2.6.6 Other Permits

Chino possesses a radioactive materials license from the NMED for storage and use of density gauges and x-ray analyzers, and an explosives permit from the federal Bureau of Alcohol, Tobacco and Firearms for blasting in the Santa Rita Open Pit.

2.6.7 Plans of Operation

Federal BLM Regulations in 43 CFR Subpart 3809 require an approved plan of operations for activities conducted on public lands that disturb 5 or more acres. To comply with these regulations,
4.0 POST-MINING LAND USE DESIGNATION

Based upon the requirements of the MMD Permit, NMMA Section 69-36-11.6, and Subparts 507.A and 507.B of the NMMA Rules (MMD, 1996), this section provides the post-mining land use (PMLU) for the permit area as a whole and specific facilities at Chino. PMLUs are specified in Section 3.G. of the MMD Permit.

4.1 Post-Mining Land Use Overview

The NMMA Rules define the PMLU as “a beneficial use or multiple uses which will be established on a permit area after completion of a mining project. The PMLU may involve active management of the land. The use shall be selected by the owner of the land and approved by the Director [of MMD]. The uses, which may be approved as PMLUs, may include agriculture, commercial or ecological uses that would ensure compliance with Federal, State or local laws, regulations and standards and which are feasible.” The proposed PMLUs for each facility were selected on the basis of the site characteristics and the following guidelines:

- make the PMLU compatible with the surrounding ecosystem and land use;
- use the existing infrastructure and land resources to the extent possible; and
- maintain economic viability for Chino and the surrounding community.

The following PMLUs were selected for Chino:

- A wildlife habitat PMLU is designated for the tailing impoundments, stockpiles and other reclaimed areas.

- An industrial PMLU is designated for the transition of shops and non-process buildings and ancillary facilities from mining to an industrial/commercial complex.

The Santa Rita Open Pit and portions of the NMA have been granted a waiver from the requirements of achieving a PMLU or self-sustaining ecosystem pursuant to NMMA Rules (19 NMAC 10, Subpart 5.507.B and Section 69-36-11.B.3 of the NMMA. The waiver area is addressed in DP-1340 (NMED, 2003). Figure 4-1 identifies the locations and extents of the proposed PMLU and the pit waiver area designation for the permit area. The configuration of the mine upon closing will define the final extent of the PMLU designations and will be adjusted with the 5-year NMED DP renewals.
Wildlife habitat is the primary PMLU for the majority of the permit area, with an industrial PMLU designated for the main mine facilities area, including the SX/EW Plant Area, the Mine Maintenance Facilities Area, and the Ivanhoe Concentrator Area.

The selection of the wildlife habitat PMLU is discussed in the following sections and presents the rationale Chino used for designating an industrial PMLU for some of the facilities and provides details regarding the efforts to achieve the PMLU. The vegetation success guidelines that will be applied to demonstrate reclamation of the mine are also detailed.

4.2 Wildlife Habitat Post-mining Land Use

Of the MMD-approved PMLUs, grazing land and wildlife habitat are the designations most consistent with the surrounding land uses and ecological potential of the Chino site, excluding the areas designated as industrial/commercial. Chino selected the wildlife habitat PMLU in deference to a grazing land designation to preclude long-term grazing management issues. The wildlife PMLU was selected in recognition that wildlife cannot practically be excluded from the reclaimed areas and that they would use the area even if a grazing land designation was selected as the PMLU.

Reclamation will result in the development of an early-stage grass/shrub community that will provide a locally important increase in community-level diversity. Some infrastructure may have a post-mining wildlife use such as power poles for raptor perches, main roads for land management, and modified mine openings for use by ringtail cats, bats and other wildlife.

Native vegetation will be established on the reclaimed areas at Chino resulting in increased erosion protection, direct habitat improvement, and reduced percolation of water into the underlying materials relative to current conditions. Proposed reclamation seed mixes and seeding rates for the NMA and SMA at Chino are presented in Tables 4-1 and 4-2, respectively. These species have broad ecological amplitudes and provide structural diversity.

The proposed seed mix was selected to provide early establishment of ground cover, erosion control, and diversity in growth forms. The species selected for Chino have been successfully used in mine reclamation and range improvement projects in many parts of New Mexico. The primary reclamation seed mix proposed for the wildlife habitat PMLU areas at Chino includes cool- and warm-season grasses, perennial shrubs, and forbs. Depending on availability, alternate species may be substituted
for the primary species. The seed mix was designed for application prior to the summer rains. However, it has proved successful under fall seeding conditions.

Table 4-3 lists some of the major attributes of the vegetation selected for use at Chino. The selected vegetation will provide: erosion control; promote soil development; and provide forage, seeds, and cover for small mammals and birds. The seed mix includes a number of valuable, nutritious forage and browse species that could be used by wildlife.

### 4.3 Industrial Post-mining Land Use

The industrial PMLU designation of buildings and facilities are summarized in Table 4-4. Those facilities not designated as the industrial PMLU will be removed or demolished. Demolition, removal, and/or burial will be accomplished by meeting requirements of the following conditions specified in MMD (2003):

- 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, and not demolished, they will be covered with suitable cover material.
- Covered footings, slabs, walls, pavement, manholes, vaults, stormwater controls and other foundations not included in the industrial PMLU will be revegetated.
- Structures to be covered due to regrading of piles will be demolished and removed.
- All debris will be removed from reaches of Santa Rita and Whitewater Creeks adjacent to or within industrial PMLU areas upon implementation of the closeout plan.
- Chino will demolish and remove the following structures associated with the tailing impoundments: tailing termination tower, tailing area maintenance facility, tailing slurry cyclones, and cranes.

The industrial PMLU will continue the existing type of use; however, the specific industry will change. The three areas proposed for industrial PMLU have the infrastructure necessary to support future industrial uses such as electroplating or sand and gravel supply. The buildings are well maintained and most of the areas have significant shop facilities and warehouse storage capacity. The Maintenance Facilities Area is accessible by roads and the Ivanhoe Concentrator Area has railroad access. Electrical power is available in each area, including possible backup power from the existing...
Power Plant. Stormwater runoff from the areas is contained within the on-site reservoir system. Finally, ample water resources are available due to the water rights that Chino controls and current infrastructure.

Chino will maintain erosion controls, structures, equipment, and utilities within the industrial PMLU areas until they are occupied by tenants. Chino proposes to cover and re-seed non-paved areas within the industrial PMLU areas after mine closure.

4.4 Site-Specific Revegetation Success Guidelines

Section 507.4 of the NMMA rules (MMD, 1996) requires that the permit area of an existing mine be reclaimed to a condition that allows the establishment of a self-sustaining ecosystem appropriate for the life zone of the surrounding area unless it conflicts with the approved PMLU. Demonstration of the establishment of a self-sustaining ecosystem is made by comparison of the vegetation on the reclaimed areas to vegetation attributes on a reference area and/or technical standards (MMD, 1996).

The MMD recognizes that replication of the pre-mining plant communities after mining is not practical (MMD, 1996). The intent of the reference area characterization is to provide a site-specific, quantitative basis for determining revegetation success. More importantly, the reference areas provide an "ecological barometer" that integrates normal climatic variations to aid in the evaluation of temporal changes or trends in the reclaimed ecosystem. Thus, the reference areas do not represent model plant communities that will be replicated in detail, but rather local indications of the ecological potential of the reclaimed plant communities.

The reclamation success guidelines required by the MMD vary depending on the PMLU. Canopy cover, shrub density, and vegetation diversity are the revegetation success guidelines that are typically used to judge revegetation success on lands designated as wildlife habitat.

The vegetation success guidelines include numerical standards to address the canopy cover and shrub density requirements of the NMMA (DBS&A, 1999b). The plant diversity guidelines are addressed through a technical standard and are complemented by a qualitative assessment of plant colonization and regeneration to corroborate the establishment of a self-sustaining ecosystem. The approved guidelines for revegetation success that apply to Chino are discussed in the following sections.
5.2.5 Condition 84 – Supplemental Leach Ore Stockpile and Waste Rock Stockpile Mass Loading Study

In fulfillment of Condition 84 of DP-1340, Chino is performing a supplemental mass loading study on leach ore and waste rock stockpiles. Chino reported preliminary study results in the interim report submitted by EnviroGroup (2006). The study characterized the West, South, and Lambrightr stockpile compositions, evaluated the effects of leaching and weathering on the mine material properties, modeled stockpile seepage quality, evaluated mass loading to groundwater, and provided information for slope stability analysis.

5.2.6 Condition 86 – Water Treatment System Sustainability Study

In fulfillment of Condition 86 of DP-1340, Chino prepared a report on water treatment system sustainability (JSAI, 2006). The study specifically addressed requirements in the condition: 1) identified sources of water and associated water rights for dilution water to be used as part of the water treatment system; 2) analyzed the sustainability of the water resources proposed for use in commingling for a period of at least 100 years; 3) assessed the potential impact to groundwater from land application of the final effluent stream; 4) analyzed the potential impact to groundwater from land application to the commingling water source wells; 5) identified the potential discharge points for the final effluent stream; and 6) described the proposed beneficial use for the final effluent stream.

5.2.7 Condition 88 – Process Solution Elimination Study

In fulfillment of the requirements of Conditions 33 and study associated with Condition 88, Chino submitted a work plan to NMED for a process solution elimination study on October 3, 2003. The findings were presented in a report to NMED on June 25, 2004 (M3, 2004b). The process solution elimination study evaluated alternatives to identify environmentally sound and cost-effective methods to treat or eliminate the process solutions following the cessation of mining operations or closure of Chino. The study evaluated two options for process solution elimination: a recirculation option and a pit option. Although both options rely on surface and spray evaporation as the means to eliminate process water, the recirculation option utilizes the existing reservoirs, pumps, and pipeline systems to hold and evaporate water, while the pit option transfers water to the Pit Lake/Sump for evaporation. The recirculation option was recommended system to be implemented after operations cease in the northern area of Chino.
TYRONE MINE CLOSURE/CLOSEOUT PLAN UPDATE
PHELPS DODGE TYRONE, INC.,
TYRONE, NEW MEXICO

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October 11, 2007
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2.5.1 Mining Act Permit

To meet requirements of the NMMA, Tyrone obtained approval of its existing mining operation permit (GR010RE) from the MMD in July 1996.

2.5.2 National Pollutant Discharge Elimination System (NPDES) Permit

Tyrone is currently operating under NPDES permit NMR05A918. Additionally, Tyrone has developed a Spill Prevention Control and Countermeasure Plan (SPCC) (Souder Miller & Associates, 2005) for its oil storage facilities as required by the Clean Water Act and has also developed a Stormwater Pollution Prevention Plan (SWPPP) with Best Management Practices (BMPs) (PDTI, 2004c) in accordance with the requirements of the U.S. EPA, NPDES, Multi-Sector General Storm Water Permit (MSG-2000) for Sector G – Metal Mining (Ore Mining and Dressing) facilities. Both of these documents are on file at Tyrone, as required by applicable regulations.

2.5.3 Water Rights

Tyrone has water rights licenses under the New Mexico Office of the State Engineer (OSE). File Nos. GSF 02260 and 3020 and File Nos. M2680, M4978, M4979, and M4980.

2.5.4 Air Quality

In December 1995, Tyrone submitted a Title V air quality permit application to meet its initial requirement as defined by the State of New Mexico operating permits programs (AQCR 770 and 771) pursuant to Title V of the Clean Air Act and Title 40 Code of Federal Regulations (CFR) 70. NMED subsequently issued Operating Permit Number P147, which was last updated in August 2005 (NMED Air Quality Bureau [AQB], 2005a). This permit authorizes the operation of the open pit copper mine and associated process activities such as drilling, blasting, loading, hauling, and unloading of ore and overburden.

Tyrone applied for and received a Part 72 permit (Permit No. 2448) for modification and operation of the SX/EW plant in January 2001. Tyrone also applied for and received a Part 72 permit (Permit No. 2448A) for modification and operation of the Tyrone Power Plant in May 2002. Additionally, in September 2005, NMED issued NSR Air Quality Permit No. 2448B (NMED AQB, 2005b). This permit authorizes Tyrone.

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4.0 POST-MINING LAND USE DESIGNATION

This section provides the post-mining land use (PMLU) for the permit area as a whole and for specific facilities at Tyrone based upon the requirements of the MMD Permit, NMMA Section 69-36-11.6, and Subparts 507.A and 507.B of the NMMA Rules (MMD, 1996). PMLUs are specified in Section 3.G. of the MMD Permit.

4.1 Post-Mining Land Use Overview

The NMMA Rules define the PMLU as “a beneficial use or multiple uses which will be established on a permit area after completion of a mining project. The PMLU may involve active management of the land. The use shall be selected by the owner of the land and approved by the Director (of MMD). The uses, which may be approved as PMLUs, may include agriculture, commercial or ecological uses that would ensure compliance with Federal, State or local laws, regulations and standards and which are feasible.” The proposed PMLUs for each facility are presented in Figure 4-1 and were selected on the basis of the site characteristics and the following guidelines:

- Make the PMLU compatible with the surrounding ecosystem and land use;
- Use the existing infrastructure and land resources to the extent possible; and
- Maintain economic viability for Tyrone and the surrounding community.

The approved PMLUs for Tyrone are wildlife habitat and industrial in accordance with MMD Permit Conditions D.4, E.4, and I.1 (MMD, 2004). Tyrone was granted a conditional waiver from the MMD from achieving a post mine land use or self sustaining ecosystem (SSE) for the Main, Gettysburg, Savanna, and Copper Mountain Pits (MMD, 2004). The approved waiver areas are identified in Figure 4-1 and in the MMD Permit. Additionally, as part of this CCP, Tyrone has identified additional areas within the interior portion of the Mine/Stockpile Unit that will be requested for a waiver from achieving a PMLU or SSE (Figure 4-2). These additional areas include: 1) approximately 105 acres associated with additional mining around the Main and Copper Mountain Pits; 2) approximately 121 acres of pit wall area (comprised primarily of stockpile material at the hard rock/stockpile interface) that was inadvertently omitted from the previous waiver; 3) approximately 62 acres of future expansion of the eastern portion of the Main Pit associated with mining the residual Gila Conglomerate borrow source for cover; and 4) approximately 490 acres of stockpiles and disturbed areas adjacent to the open pits where surface water cannot feasibly flow out to the perimeter of the Mine/Stockpile Unit due to existing topographic.

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constraints. Because surface water from these areas will not drain to the exterior of the mine without a substantial amount of regrading, runoff from these areas will be commingled with pit water, collected with the existing pit sump collections systems, and incorporated into the proposed water treatment influent circuit for treatment. Preliminary results of the Feasibility Study indicate that covering and regrading of this area is not supported from a cost-benefit perspective. Tyrone intends to provide more detail on the rational and justification for this additional waiver area pending agency review and comment on this CCP.

Wildlife habitat is the primary PMLU for the majority of the permit area, with an industrial PMLU designated for the Main Mine Facilities Area, including the SX/EW Plant Area, and several of the remaining buildings located within the Mill and Concentrator Area. The selection of the wildlife habitat PMLU is discussed in Section 4.2. Section 4.3 presents the rationale Tyrone used for designating an industrial PMLU for some of the facilities and provides details regarding the efforts to achieve the PMLU. Section 4.4 details the vegetation success guidelines that will be applied to demonstrate reclamation of the mine.

4.2 Wildlife Habitat Post-mining Land Use

Of the MMD-approved PMLUs, grazing land and wildlife habitat are the designations most consistent with the surrounding land uses and ecological potential of the Tyrone site, excluding the areas designated as industrial/commercial. Tyrone proposed the wildlife PMLU as a practical target use for the reclaimed lands at the site.

Reclamation will result in the development of an early-stage grass/shrub community that will provide a locally important increase in community-level diversity. Some infrastructure may have a post-mining wildlife use such as power poles for raptor perches, main roads for land management, and modified mine openings for use by ringtail cats, bats, and other wildlife.

Native vegetation will be established on the reclaimed areas at Tyrone resulting in increased erosion protection, direct habitat improvement, and reduced percolation of water into the underlying materials relative to current conditions. Proposed reclamation seed mixes and seeding rates for Tyrone are presented in Table 4-1. These species have broad ecological amplitudes and provide structural diversity.

The proposed seed mix was selected to provide early establishment of ground cover, erosion control, and diversity in growth forms. The species selected for Tyrone have been successfully used in mine reclamation and range improvement projects in many parts of New Mexico, including the Tyrone Mine.

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The primary reclamation seed mix proposed for the wildlife habitat PMLU areas at Tyrone includes cool and warm season grasses, perennial shrubs, and forbs. Depending on availability, alternate species may be substituted for the primary species. The seed mix was designed for application prior to the summer rains. However, it has proved successful under fall seeding conditions.

Table 4-2 lists some of the major attributes of the vegetation selected for use at the Tyrone Mine. The selected vegetation will provide erosion control, promote soil development, and provide forage, seeds, and cover for small mammals and birds. The seed mix includes a number of valuable, nutritious forage and browse species that could be used by wildlife.

4.3 Industrial Post-Mining Land Use

The industrial PMLU designation of buildings and facilities are summarized in Table 4-3. This table includes buildings and facilities approved for industrial PMLU in the MMD Permit (listed in Appendix F of the MMD Permit), with the exception of certain buildings that have since been removed as part of the mill and concentrator demolition and reclamation project. NMED requires abatement of contaminated soils that are potential source areas for ground water and surface water contamination in accordance with NMAC Sections 20.6.2.1203, 20.6.2.3109.E.1, and 20.6.2.4103 in and around all facilities and structures approved by MMD to be left for an industrial PMLU or structures necessary for post-closure treatment and disposal of ground water and/or surface water. Those facilities not designated for industrial PMLU will be removed or demolished. Demolition, removal, and/or burial will be accomplished by the following:

1. Where footings, slabs, walls, pavement, manholes, vaults, storm water controls, and other foundations are not included in the industrial PMLU, abandoned in place over non-acid-generating material, and not demolished, they will be covered with topdressing to a depth of 24 inches minimum:

2. Covered footings, slabs, walls, pavement, manholes, vaults, storm water controls and other foundations not included in the industrial PMLU will be revegetated in accordance with Appendix C of the MMD Permit: and

3. A structural removal plan will be submitted to the NMED at least 60 days prior to any structure removal or demolition; the plan will address any potential discharges of leachate and contaminated soils that could cause and exceedance of ground water standards.

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The industrial PMLU will continue the existing type of use; however, the specific industry will change. The areas proposed for industrial PMLU have the infrastructure necessary to support a variety of future industrial uses. The buildings are currently being used and are well maintained and most of the areas have significant shop facilities and warehouse storage capacity. All the sites have access to a major state highway (Highway 90), and two of the areas have railroad access. Electrical power is available in each area. Storm water runoff from the areas is contained within the on-site surface impoundment system. Finally, ample water rights are available due to the water rights that Tyrone controls.

Tyrone will maintain erosion controls, structures, equipment, and utilities within the industrial PMLU areas until they are occupied by tenants. Tyrone proposes to cover and reseed non-paved areas within the industrial PMLU areas after mine closure. The areas identified for the industrial PMLU are currently used for industrial purposes such as warehousing, heavy equipment repairs, electrical distribution and repairs, welding, machining, plumbing, and training. Although the industrial PMLU will continue the existing type of use, the specific industry will change. Possible industrial uses that may be recruited were described in previous justifications for the industrial PMLU for these sites.

4.4 Site-Specific Revegetation Success Guidelines

Section 507.A of the NMMA rules (MMD, 1996) requires that the permit area of an existing mine be reclaimed to a condition that allows the establishment of a self-sustaining ecosystem appropriate for the life zone of the surrounding area unless it conflicts with the approved PMLU. Demonstration of the establishment of a self-sustaining ecosystem is made by comparison of the vegetation on the reclaimed areas to vegetation attributes on a reference area and/or technical standards (MMD, 1996).

The MMD recognizes that replication of the pre-mining plant communities after mining is not practical (MMD, 1996). The intent of the reference area characterization is to provide a site-specific, quantitative basis for determining revegetation success. More importantly, the reference area provides an “ecological barometer” that integrates normal climatic variations to aid in the evaluation of temporal changes or trends in the reclaimed ecosystem. Thus, the reference areas do not represent model plant communities that will be replicated in detail, but rather local indications of the ecological potential of the reclaimed plant communities.

The reclamation success guidelines required by the MMD vary depending on the PMLU. Canopy cover, shrub density, and vegetation diversity are the revegetation success guidelines that are typically used to judge revegetation success on lands designated as wildlife habitat. The vegetation success guidelines include numerical standards to address the canopy cover and shrub density requirements of the NMMA.

Golder Associates
Tyrone Mine Closure/Closeout Plan Update
October 11, 2007

The closure alternatives are being evaluated using a dynamic system model (DSM) that considers the combined environmental, operational, and economic effects of each alternative. Post-closure water quantity and water quality projections were completed for the proposed reclamation plan described herein (Alternative 7) to provide a basis for the water treatment capital and operation and maintenance (O&M) cost estimates associated with this CCP. Details on the DSM analysis and results are provided in Appendix D along with the water treatment capital and O&M cost estimate.

5.1.21 Industrial PMLU Building Inspection Certification

In fulfillment of Section 9.1.1 of the MMD Permit, Tyrone is required to “…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.,” and “…submit a general erosion control plan to be implemented at closeout for the area covered by the Industrial PMLU.” The original Industrial PMLU Inspection Report was submitted in January 2004 (M3, 2004a), and a second inspection report that included two facilities that were not included in the original inspection (Jerome Building and Diesel Tank Farm) was submitted in March 2004 (M3, 2004b). The results of these inspections indicated that the buildings and structures proposed for Industrial PMLU in the 2001 CCP were all in good condition. The inspection reports included the field inspection forms, photographic documentation of the facilities, and updated building and structure maps. An Industrial PMLU Erosion Control Plan was submitted in October 2004 (PDTI, 2004h) that described the erosion control measures to be implemented for the Industrial PMLU areas. The plan also provided erosion estimates of the Industrial PMLU areas.

5.1.22 Affected Areas Study

In fulfillment of Section 9.1.3 of the MMD Permit, Tyrone is required to “…conduct a study to identify areas affected by mining.” The Affected Areas Study Work Plan was submitted in April 2005 (DBS&A, 2005a). The work plan describes the known and potential affected areas at the Tyrone Mine, as well as the conditional studies that will provide additional information on the nature and extent of the affected areas. The proposed investigation involves the evaluation of potential effects to land surface attributable to mining operations outside the MMD permit boundary that have not previously been evaluated in detail. The affected areas study will be completed within 240 days of MMD approval of work plan.
6.1.6 Facility Demolition

Those facilities not designated for industrial PMLU will be demolished, removed, and/or buried or otherwise closed in accordance with an approved plan. A total of approximately 62 buildings/tanks/structures containing approximately 7,687,500 cubic feet will be demolished and removed under this plan. The list of facilities that are scheduled to be removed is provided in Table 6-1. Where footings, slabs, walls, pavement, manholes, vaults, storm water controls, and other foundations are abandoned in place over non-acid-generating material, and not demolished, they will be covered with topdressing to a depth of 24 inches minimum.

6.1.7 Industrial Facilities

The majority of the infrastructure (shops, buildings, roads and utilities) associated with the Industrial PMLU areas will be adapted for non-mining industrial applications. NMED requires abatement of contaminated soils that are potential source areas for ground water and surface water contamination in accordance with NMAC Sections 20.6.2.1203, 20.6.2.3109.E.1, and 20.6.2.4103 in and around all facilities and structures approved by MMD to be left for an Industrial PMLU or structures necessary for post-closure treatment and disposal of ground water and/or surface water. Tyrone will maintain erosion controls, structures, equipment, and utilities within the Industrial PMLU areas until they are occupied by tenants. Tyrone proposes to cover the disturbed areas located within the Industrial PMLU areas with 24-inches of cover material and revegetate the areas in accordance with Appendix C of the MMD Permit.

6.2 Performance Objectives/Reclamation Design

Performance objectives and design criteria were developed with the intent of meeting rules and requirements associated with the WQA, WQCC Regulations and NMMA. This section presents the reclamation design criteria in accordance with these objectives. The closure or reclamation designs are depicted in the drawing set provided in Appendix A. The designs were developed to provide enough information to calculate the financial assurance cost estimate. The following sections present the performance objectives and reclamation design criteria for the major facilities at the mine. A summary of the key design criteria for the facilities is presented in Table 6-2.

6.2.1 Tailing Impoundments

The performance objectives for the top surface and exterior outslopes of the IX tailing impoundment include establishment of a self sustaining ecosystem, control of fugitive dust, control of runoff and

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New Mexico Environment Department (NMED), 1996. Characterization according to procedures recommended by the NMED


NMED AQB, 2005b. NSR Air Quality Permit No. 2448B. September 11.


NMED and MMD, 2005. Conditional Approval of No.1 Stockpile Test Plot As-builds; Cover, Erosion and Revegetation Test Plot Study; Tyrone Mine, Permit No. GR010RE; and Condition 76, DP-1341. November 8.

NMED and MMD. 2006a. Conditional Approval of Tailing Test Plot As-builds; Cover, Erosion and Revegetation Test Plot Study; Chino Mine, Permit No. GR009RE; Condition 82, DP-1340; Tyrone Mine, Permit No. GR010RE; DP-27 Settlement Agreement, Condition 29; and Condition 76, DP-1341. November 8.


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PDTI, 2003h. Discharge Plan 1341, Condition 29, Mining Shafts and Adits Identification Schedule for Phelps Dodge Tyrone, Inc. October 6.


Golder Associates
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
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. Demolitions and Burial
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 D: Post Mine Land Use Building List

<table>
<thead>
<tr>
<th>Description</th>
<th>Tag #</th>
<th>PMLU</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Office</td>
<td>MM-01</td>
<td>Industrial</td>
</tr>
<tr>
<td>Mine Operations Office</td>
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<td>Industrial</td>
</tr>
<tr>
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<td>MM-03</td>
<td>Industrial</td>
</tr>
<tr>
<td>Safety</td>
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<td>Industrial</td>
</tr>
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<td>HR/Training</td>
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<td>Electrical Building &amp; Chlorine shack</td>
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<td>Reclalm Water Pump House</td>
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<td>Radiators/Power Plant</td>
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<td>Jerome building</td>
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<td>Wildlife Habitat</td>
</tr>
<tr>
<td>Electric Shop</td>
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<tr>
<td>Pipe Shop</td>
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<td>Intermediate Ore Storage</td>
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<tr>
<td>Primary Crusher</td>
<td>MC-11</td>
<td>Wildlife Habitat</td>
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</table>
Via Certified Mail #7099340000643513301
Return Receipt Requested

Karen Garcia, Bureau Chief
Mining and Minerals Division
Mine Reclamation Program
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

Dear Ms. Garcia:

Re: Outstanding Permitting Issues, Permit Revision 97-1
Phelps Dodge Tyrone, Inc. (Permit No. GR0010RE)

This letter responds to your letter of October 2, 2002 regarding the status of Phelps Dodge Tyrone, Inc. (PDTI) permitting under the Mining Act. PDTI hoped to respond to your letter after issuance of discharge plan DP-1341, the closure permit pending before the New Mexico Environment Department (NMED). As you are aware, NMED held a public hearing on DP-1341 in May 2002. At that public hearing, PDTI presented a proposed form of permit for DP-1341 that included substantial changes from the closure/closure plan presented in the May 2001 CCP document. A copy of PDTI’s proposed form of permit is enclosed for MMD’s information and reference and is referred to in this letter as PDTI’s DP-1341 Proposal. At the public hearing, NMED and two other parties presented competing proposals for DP-1341. A decision on DP-1341 is presently awaiting a decision by NMED’s Hearing Officer.

As of the date of this letter, PDTI has not received word from the Hearing Officer on any decision regarding DP-1341. PDTI will not be able to determine until after DP-1341 is issued, and PDTI is able to evaluate whether the permit has been issued in a form agreeable to PDTI whether PDTI will be able to incorporate the requirements of DP-1341 into its closure plan. The enclosed copy of the PDTI DP-1341 Proposal is provided for MMD’s reference only, and is not intended at this time as a modification of PDTI’s proposed closure plan. All of the positions and commitments made in this letter and its attachments are based upon the assumption that DP-1341 will be issued in a form agreeable to PDTI. If that assumption proves to be incorrect, then PDTI reserves the right to withdraw or modify any of the positions and commitments made in this letter.

WAIVER REQUESTS

1. Cost Estimate for Reclamation to Achieve SSE

Your October 2 letter does not request additional cost estimate information for the main open pit. Consequently, it appears that the cost estimate information previously submitted by PDTI in the May 2001 CCP is sufficient for MMD’s waiver determination. PDTI notes that similar cost information was also submitted for the Gettysburg, Copper Mountain and South Rim Pits individually in Section 10 of the May 2001 CCP.
In its CCP submitted to MMD in May 2001, PDTI provided a written justification for its waiver request. In that document, PDTI requested a waiver for the stockpile outslopes and the open pits. That waiver justification provided a comparison of the cost of the closeout plan proposed by PDTI with the estimated cost of the “comparison case” on a unit-by-unit basis. The scope of work for reclamation of stockpiles under the “comparison case” is slightly different from the scope of work described in PDTI’s DP-1341 Proposal. In particular, the comparison case used inter-bench slopes of 3:1 rather than the 2.5:1 used for PDTI’s DP-1341 Proposal. Despite this change in scope, much of the information in PDTI’s 2001 CCP remains relevant to the waiver request, and is incorporated herein by this reference. Section 10 of the 2001 CCP also included a unit-by-unit cost benefit analysis comparing cost to flatten and cover slopes to contaminant mass loading at the bottom of stockpiles along with other technical considerations. Technical discussions were provided to substantiate its assertions and PDTI is interested in specific technical rationale from MMD on aspects that the agency finds inadequate rather than the general assertions of inadequacy that have been received so far. In some cases, these assertions contradict the facts that have been provided as indicated above and, therefore, leave PDTI with little or no specific guidance of MMD’s expectations.

Under the PDTI DP-1341 Proposal, PDTI would regrade and cover substantial portions of the stockpile outslopes. However, PDTI would conduct several prescribed studies to reevaluate whether any regrading and cover is necessary to meet the requirements of the Water Quality Act. Based upon the results of these studies, PDTI’s plan, as presented in the 2001 CCP, could be determined to be adequate to meet the requirements of the Water Quality Act, or other reductions in the regrading and cover requirements may be warranted with respect to compliance with the Water Quality Act. For these reasons, it would not be appropriate for MMD to assume, in considering PDTI’s waiver request, that the PDTI DP-1341 Proposal or the scope of work under DP-1341 as issued by NMED contains the final requirements necessary to meet the requirements of the Water Quality Act. Moreover, because of the uncertainty of the ultimate scope of regrading and covering stockpiles needed to meet the requirements of the Water Quality Act, for purposes of the evaluation of economic feasibility of reclamation to meet the self-sustaining ecosystem standard at this point in time, MMD should not assume that regrading and covers are required to satisfy the requirements of the Water Quality Act. For the foregoing reasons, the economic feasibility analysis for the stockpiles, on a “unit-by-unit” basis, should be based upon the difference between the cost of reclaiming the stockpiles as proposed in the 2001 CCP and the cost of reclaiming the stockpiles based upon the minimum cost of achieving the SSE standard as discussed in MMD’s October 2, 2002 letter. The estimated costs of reclamation under the 2001 CCP are presented in that document.

Included below are the unit-by-unit capital costs for reclamation of stockpiles including regrading and covering slopes according to the least cost estimate of regrading and covering certain interior and exterior stockpile slopes and the costs of the interior outslopes only. The total cost is shown on the left of the table and the interior slope segment costs are shown on the right. The complete workbook spreadsheets are included as an attachment.
Total including Interior Stockpile Slopes

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<tr>
<th>Stockpile</th>
<th>Total Stockpile Cost</th>
<th>Interior Outslopes Only Cost</th>
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<tr>
<td>1</td>
<td>$4,099,028</td>
<td></td>
</tr>
<tr>
<td>1A</td>
<td>$14,658,777</td>
<td></td>
</tr>
<tr>
<td>1B</td>
<td>$7,086,853</td>
<td>$3,680,894</td>
</tr>
<tr>
<td>1C</td>
<td>$6,974,495</td>
<td>$1,543,117</td>
</tr>
<tr>
<td>1D</td>
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<tr>
<td>2</td>
<td>$32,060,461</td>
<td>$24,547,718</td>
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<tr>
<td>2A</td>
<td>$37,638,499</td>
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</tr>
<tr>
<td>3</td>
<td>$49,560,664</td>
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<tr>
<td>3B</td>
<td>$22,117,074</td>
<td>$21,512,914</td>
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<tr>
<td>Savanna</td>
<td>$744,920</td>
<td>$706,351</td>
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<td>East Main</td>
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<td>Gettysburg Out Pit</td>
<td>$2,354,546</td>
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<td>9A</td>
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<tr>
<td>TOTAL</td>
<td>$185,321,396</td>
<td>$114,626,060</td>
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</tbody>
</table>

2. Cost/Benefit Analysis Information

Some cost/benefit information is presented in the PDTI CCP document. As discussed above, the economic feasibility analysis should be based upon a comparison of the costs and benefits of reclamation under the 2001 CCP to the costs and benefits of the reclamation based upon the scope of work to achieve a self-sustaining ecosystem developed last spring. Additional information regarding the potential benefits/values to be gained by the additional reclamation, as requested in the October 1, 2002 letter, is provided as follows:

The associated land values for undisturbed property at nearby ranches is described as follows:

A recent review of ranch sales in the area valued the land at $175 to $250 per acre. That ranch contains some of the best rangeland in the area. This price per acre for an operating business also includes the value of the infrastructure (water development, fences, and corrals which are necessary to support a livestock grazing operation). Other nearby but less productive grazing land appraisals would indicate values in the $100 to $125 per acre range. In this situation, productive value is due to differences in soils, topography, precipitation, and plant community, etc.

Based upon the values of comparable, but higher quality, rangeland, the value of reclaimed land brought to a self-sustaining ecosystem for wildlife PMLU will likely be in the $50 per acre range. The value of restored land should be compared to the cost of reclaiming each acre of the stockpiles to achieve the wildlife land use and self-sustaining ecosystem.

Air quality would not be improved by reclaiming the interior slopes. The material is sufficiently coarse to minimize dust emissions. The process of reclaiming the slopes would cause more air impacts than leaving them as is.

As all pertinent cost benefit factors should be considered in the waiver analysis, the cost benefit of reduced water treatment capital and operating costs due to outslope reclamation of the areas may need
to be considered as part of the waiver analysis. There may be a relationship between the amount and quality of water requiring treatment versus the extent of physical reclamation. PDTI expects that increasing the aerial extent of reclamation may reduce total impacted water that will be collected, and hence, water treatment requirements and costs. However, there will be a diminishing reduction of water collected as cover thickness increases. Also, re-sloping before cover increases total collection area reclaimed to more overall precipitation, and decreasing benefits of cover. In order to conduct a cost-benefit analysis as referenced above, a relationship between collected water quantity and quality versus extent of reclamation must first be developed. The information required to develop this relationship has not been developed; however, PDTI believes that the necessary data required to develop this relationship will be generated by the studies required in DP-1341, when issued – including the Feasibility Study. Consequently, a more detailed cost-benefit analysis including this information will not be available within the next few months.

A similar cost benefit analysis, if applied to the existing tailing piles, could justify a waiver of reclamation to meet the “self-sustaining ecosystem” standard for those units as well. To the extent that work required to meet the requirements of the Water Quality Act also satisfies the “self-sustaining ecosystem” standard; this issue may be a moot point. If future proceedings result in a determination that covering the tailing piles is not required to satisfy the requirements of the Water Quality Act, PDTI reserves the right to assert a request for a waiver for the tailing piles.

3. Financial Impact of Additional Reclamation on PDTI Operations

PDTI maintains that a critical component of the evaluation of economic feasibility is the economic impact to the mining operation and associated benefits to the economy if a given closeout plan alternative is required for a mine operation. The cost of a closeout alternative, such as regrading and covering stockpile cutsteps should include the impact of that alternative to the viability of continuing mining operations such as the impact on the economic life of the PDTI Mine, the ore reserve, operating costs, revenues and timing of mine closure. MMD has requested cost information on a unit-by-unit basis; however, PDTI has indicated in previous meetings that modifications to a single stockpile will typically impact pit operations and other stockpiles as well. For example, if the alternative to achieve a self-sustaining ecosystem requires flatter slopes on a waste stockpile and thus reduces the capacity of the stockpile for a given footprint, then mine life is likely to be shortened due to the absence of disposal capacity for stripping operations or a higher cost is incurred by the operation to accommodate this material in an alternative location. In short, either copper reserves and waste rock will have to be left in the ground or additional waste capacity must be developed elsewhere, likely at a longer haul distance.

Effects of Slope Flattening on Mine Life and Mine Reserves:

The following information was provided at the NMED hearing for DP-1341 and is part of that hearing record

The New Mexico Environment Department (NMED) has issued a proposed supplemental discharge permit for closure, DP-1341, to PDTI. The proposed conditions specify that stockpiles shall be regraded to interbench slopes no steeper than three horizontal units to one vertical unit, or simply designated as a 3:1 slope. The conditions in DP-1341 also specify the design criteria for drainage, slope lengths, benches, channels and ditches of these slopes.
To understand the impacts of this proposal, a study was completed by PDTI to evaluate the impact of implementing the proposed DP-1341 conditions to the operation. An important assumption of the evaluation was that no regrading of the existing stockpiles would be performed. The study did incorporate the slope flattening and design criteria conditions of the DP-1341 proposal for any future stockpiles built on the existing ones. This concurrent stockpile flattening design could be viewed as a reclamation program that proceeds concurrent with the mining activity. If flattening of the existing slopes is required, then the mine economic costs presented below would be even higher. It is also noted that analyses such as the following must be made for the overall operation, because operational decisions concerning an individual mine unit typically affect several other mine units.

The overall slope design of four-to-one (4:1) was used to include roads, berms and pipe access, but maintaining a three-to-one (3:1) interbench slope angle. The mined material would rapidly fill the existing stockpiles to capacity using the 4:1 design.

The results of this study were compared to the current mine plan and indicated that if the proposed conditions for DP-1341 were used with a 4:1 slope design that was implemented immediately, with concurrent mining, the reserve mine-life at PDTI would be reduced from eight to three years. This is a reduction in reserves of about 63 percent.

Other significant impacts to the operation that this study found were an increase to mining costs due to a rapid increase in the haulage lift component. This is because the stockpiles are higher in elevation, requiring additional fuel and driving times per load. Another impact was that the solution extraction – electrowinning (SX/EW) costs rise because of increased pumping costs due to higher stockpiles.

Additional impacts of stockpile 4:1 design for PDTI include that the Little Rock reserve would not be mined because the limited minelife would not pay back the initial capital investment, there is limited stockpile capacity for leaching the ore, and it becomes impossible to mine the existing reserves fast enough to generate new stockpile space. This means that the bulk of the reserves at Valencia, West Main Phase II, Savanna, and other reserves would not be mined.

These actions also will impact decisions about future mine resources. PDTI uses appropriate mined-out pits for stockpile placement in its mine plan. This in-pit stockpile space will not be available because it is impossible to complete mining of a pit in a short three-year time frame. Thus, the M-Pit stockpile space will not become available within the three-year window. Also, the Niagara resource likely would not be mined.

The net impact of the 4:1 slope design would be a large reduction of stockpile volume. If the proposed design is implemented, in three years, PDTI will run out of stockpile space. Any mining beyond three years will require new stockpile space.

Because of the severe impacts the stockpile flattening has to the operation, another study was completed by PDTI to address the cost and viability of constructing a new stockpile that would enable mining and leaching to continue at PDTI. The size of the stockpile covers approximately 560 acres. The first step would involve obtaining the required permits. Since this would be a new stockpile, costs were included for site preparation and lining costs. Because the stockpile is so far away from the mining areas, the costs for the haulage were also calculated. Since the distance is greater, it involves a significantly
larger lift component than the existing mine plan. Additional haul trucks would be required to sustain the mining and production rates of the operation as well as leach collection facilities and permits.

At the No. 2 Stockpile system, the difference in tonnage capacity between the angle of repose design versus the State proposal is significant and here represents a loss in stockpile capacity of 29.7 million tons. This amounts to a 64 percent reduction of remaining stockpile capacity for this stockpile. At the No. 4 Stockpile system, the loss of remaining stockpile capacity from the angle of repose design, using 4:1 slopes, is a significant 72.3 million tons. This represents a loss in stockpile tonnage capacity of 66 percent. At the No. 1 Stockpile system, a loss of 38.3 million tons of remaining stockpile tonnage capacity will result if the stockpiles are built to a 4:1 slope instead of the angle of repose design.

By utilizing the concurrent slope flattening, there are significant impacts to the existing mine plan. The mining life is reduced from five years to less than 3 years, or 63 percent. This 63 percent loss is very close to the reduction in stockpile tonnage capacity reported for the Nos. 2, 4 and 1 Stockpile systems. It is acknowledged that flattening slopes to 2.5:1 interbench angles (approximately 3:1 slopes overall) would consume less remaining stockpile capacity; however, the analysis above did not account for capacity losses from flattening existing slopes. This will yield similar or worse capacity losses as compared to the above analyses.

If the three years then represents the minelife, and if reclamation were to then commence, the additional opportunities of stockpile rehandling and releaching, tailings processing, new exploration discoveries, and the role of future technology for additional copper production would come at a significantly greater cost.

Another very important facet is once reclamation is completed, that could forever limit PDTI from any future mining and processing activities. The overriding conclusion is that by implementing concurrent stockpile slope flattening, the opportunity of future generations to mine and process copper at PDTI is damaged and potentially eliminated.

PDTI contains reserves and resources for a minelife through 2017, provided the business is allowed to operate to PDTI’s objectives. There is significant exploration potential for reserve additions. There are opportunities for the stockpile and tailing to be additional resources or reserves of copper in the future. If the concurrent stockpile 3:1 slope design proposal is required, then mine life is reduced to about three years.

The actual economic costs of the additional reclamation required for stockpile slope reduction and cover would also include significant costs to the local economy due to the reduced production. Some economic benefits may be realized due to reclamation activities, but these benefits have been estimated to be very small compared to mining activities and will ultimately follow mining in either scenario. The following information was provided as part of the DP 1341 hearing in May 2002 by George F. Leaming, Ph.D. of the Western Economic Analysis Center.

The direct impact of PDTI on Grant County in 2001 totaled more than $60 million in direct payments to employees, former employees, suppliers of products and services and governments. Grant County business firms that supplied products and services directly to PDTI received almost $38 million in sales revenues directly from the enterprise in 2001. PDTI’s employees and former employees living in the county received personal income of nearly $22 million. Approximately $580,000 in local government revenues provided directly by PDTI were mostly in the form of property taxes levied on PDTI properties,
but also included some local allocation of production and sales taxes paid directly to the State of New Mexico. The biggest share, $290,000, approximately, went to Grant County government. About two-thirds as much, almost $190,000, went to the County’s public schools. Approximately another $90,000 went directly to local municipalities.

The direct contributions of PDTI to the Grant County economy from 1992 to 2001 averaged about $22 million each year. This was in personal income for PDTI employees and former employees, a similar amount for suppliers of energy, products and services, and about $900,000 each year for local governments.

The money received by PDTI’s employees, former employees and suppliers and by local governments in Grant County was spent by those entities partly within the local economy. The circulation and recirculation of that money created indirect personal, business and government income that exceeded $50 million in 2001. That magnified the $60 million direct impact to create a combined direct and indirect economic benefit for the county of more than $110 million, government revenues, local government revenues, personal income of county residents and business sales by other Grant County businesses.

The economy of Grant County, New Mexico, benefited by almost $111 million in 2001 as a result of the combined direct and indirect contributions of PDTI to personal, business and government income in the county. The total of more than $66 million in sales revenues received by Grant County business firms, directly and indirectly, as a result of PDTI spending in the county formed 60 percent of PDTI’s total impact on the Grant County economy. The total of more than $36 million in personal income, both directly and indirectly, from PDTI last year amounted to 33 percent of PDTI’s total contribution to the local economy.

The direct economic impact of PDTI on New Mexico in 2001 exceeded $71 million in direct payments to employees, former employees, suppliers of products and services and state and local tax collectors. The New Mexico economy benefited by almost $193 million in 2001 as a result of the combined direct and indirect contributions of PDTI to personal, business and government income in the state.

In 2001, the average annual pay at PDTI was about $47,000. In the State of New Mexico, according to figures from the Department of Labor, the only industries comparable with that were communications, which paid about $44,000 a year to its employees and public utilities, which paid a little over $46,000 a year to its employees. Mining over the whole state averaged about $37,000 a year. The average annual pay at PDTI last year was about three times the pay in the retail/wholesale trade sector, comparable to pay in communications and public utilities, and about 50 percent more than in construction or state and local government in the county.

If PDTI were to close, most of the contribution listed above would be lost over the period of reduced or eliminated mine life. The only significant segment that would remain would probably be payment to retirees who remained in the county.

For 2001, according to figures from the New Mexico Department of Labor, the unemployment rate in Grant County averaged a little under 7 percent, 6.8 percent. In figures from the Department of Labor, unemployment has increased in Grant County to 12.5 percent, probably as a result of the curtailment at Chino. The loss of 470 more direct jobs because of a curtailment at PDTI would increase
the current unemployment rate to almost 16 percent. The loss of the indirect as well as the direct jobs attributed to PDTI would take the unemployment rate to about 20 percent from the current rate of about 12.5 percent.

Economic Impacts of PDTI Mine Life Reduction

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<th>Total Annual Loss approx. ($)</th>
<th>Mine Life Reduction (yrs)</th>
<th>Reduced Mine Life ($) Impacts</th>
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<td><strong>Direct Impact</strong></td>
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</tr>
<tr>
<td>Personal Income – 470 jobs</td>
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<td>$244,000,000</td>
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<tr>
<td>Business Revenue</td>
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<td>State &amp; Local Government Revenues</td>
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<td><strong>Indirect Impact</strong></td>
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</tbody>
</table>

This means that mine life reductions of even one year are significant to the local economy and the state economy. PDTI cannot produce precise costs for various scenarios at this time, but is willing to provide them along with a more detailed analysis of operational impacts in approximately nine months if MMD requires this information in more detail.

In summary, PDTI maintains that the combination of the cost of construction, the overall cost to the operation and the cost to the economy are orders of magnitude higher than the benefits of stockpile slope reclamation based on the information we have now. PDTI does not believe that additional analyses will change this conclusion.

OPEN PIT HEALTH AND SAFETY MEASURES

PDTI is willing to commit to the placement of signage as described by MMD at 500-foot intervals along the security fence and at access gates.

PDTI has made sufficient cost provisions to provide an adequate security fence around the appropriate portions of the mine area, but did not intend for the description (including razor wire) to become a construction specification. PDTI does not believe, for example, that anything more than a six-foot fence is necessary as long as it has adequate warning signage posted. The PDTI cost estimate used a more conservative fencing method for its cost proposal to ensure that the cost was adequate. PDTI also clarifies that no security berm is included in the cost proposal for the stipulated agreement since an adequate fence is included in the cost.
PDTI does not agree with MMD's inference that pit wall monitoring is a required component of the closeout plan since access to the pit area is prohibited. PDTI has indicated that pit wall raveling and sloughing is expected and will not be an environmental or safety problem.

**INDUSTRIAL POST-MINING LAND USE**

1. **Structure Inventory:**

   MMD is requesting an inventory of structures complete with exterior dimensions and an audit of structure contents. The list of structures prepared for the CCP included sizes of most structures. Attached are updated structure maps and inventory lists of structures with building size, structure contents and PMLUs.

2. **Justification of the Structure Use:**

   Attached are updated structure maps and inventory lists of structures with building size, structure contents and PMLUs. See attached letter from Judith Ward, Assistant Director of the Silver City-Grant County Economic Development Board (SIGRED) that discusses the ongoing need for commercial and industrial facilities in Grant County. Also attached, please find a letter from Mr. Keith Schrimsher in which item 4 discusses the PMLU viability of Tyrone facilities.

3. **Local Zoning and Building Code Issue:**

   PDTI routinely builds and maintains facilities to current industry standards. The PDTI Mine area to be included in the proposed Industrial PMLU lies within rural Grant County. There are no county zoning or code ordinances applicable to PDTI property.

   The PDTI site is routinely inspected by Mine Safety and Health Administration (MSHA) inspectors for compliance with required general as well as building, workplace, equipment, etc. safety and code issues.

   Please find attached a proposed protocol for building inspection/evaluation.

4. **Water Availability:**

   PDTI has adequate water rights to support industrial uses. PDTI’s Annual State Limit water right is 9,400 acre-feet.

   At closure, a portion of the water that PDTI has a water right to will require treatment. The treatment of this water as a part of PDTI operations during closure is a beneficial use. This treated water under the current CCP draft proposal presented at the DP-1341 NMED hearing will meet WQCC standards. The water that is a result of this process must be put to beneficial use. Industrial as well as domestic and agriculture uses are identified as beneficial uses for the PDTI Water Rights.
5. Preliminary Working Drawings:

MMD is requesting “preliminary working drawings” and design specifications detailing how each area will be reclaimed and the industrial PMLU established”. New drawings, in addition to those included in the CCP, will need to be prepared. Details of the three areas, SX-EW, mine maintenance facilities and Concentrator depicting the site plan, site access/egress, boundary separation from the wildlife areas, utility locations, erosion control, site cleanup, soils removal as required, and reclamation of the surrounding areas will need to be developed and presented. This is a task that will require field site data gathering and coordination with field and design personnel. The time necessary for this task is dependent on the scope and detail requested from MMD. PDTI would like to meet with you at your convenience to further discuss the scope of this request.

6. Type of Industrial Facility:

See attached SIGRED and Schrimsher letters.

7. Professional Building Inspector Certification:

As noted above, routine MSHA inspections are conducted that do not allow unsafe working conditions that would be noted for any facility not in good condition.

Additional Items

This information shall be updated for MMD approval at periodic intervals not to exceed five years:

1. PMLU Erosion Control Plan

PDTI agrees to provide MMD with the requested PMLU Erosion Control Plan that will by necessity be conceptual in nature since a particular user in the future may not desire to be committed to a specific physical layout. A restrictive plan could well reduce the attractive nature of the site that, as is, has in place complete infrastructure of nearby highway, road access, rail connection, electrical availability, water supply, buildings and communication connections. As this is a new request, PDTI requests to meet with MMD to clearly define the scope for this task prior to providing a delivery time frame.

2. Industrial PMLU Viability

PDTI agrees to provide a demonstration of continued PMLU viability. Please find attached the letter from Judith Ward, Assistant Director of the SIGRED Board, that discusses the ongoing need for commercial and industrial facilities in Grant County. Also attached, please find a letter from Mr. Keith Schrimsher in which item 4 discusses the PMLU viability of Tyrone facilities.
FINANCIAL ASSURANCE

The October 2 letter refers to a "financial assurance proposal submitted by PDTI" and states that it does not meet the requirements of 19.10.12 NMAC. Some financial assurance information was submitted in the 2001 CCP, and we have discussed other financial assurance since then. Consequently, PDTI does not know what "financial assurance proposal" to which your letter refers. As you should be well aware, the rules that you cite require PDTI to "provide a financial assurance proposal in an amount adequate to complete the proposed closeout plan as soon as practicable after the permittee receives notice from the Director that the closeout plan is approvable." 19.10.2.1201.B NMAC. PDTI has not yet received that notice, so a financial assurance proposal as contemplated by the rules is not yet due. Nevertheless, to facilitate future review and approval of a financial assurance proposal, as you are aware, PDTI has proceeded to develop information in support of a proposal. That information includes obtaining formal appraisals of real property that may be used as collateral for financial assurance.

The land appraisals are substantially complete, and a sample appraisal was provided to MMD for review dated 1/16/2003. It is an example of the Tyrone, Chino and Cobre appraisal work. Attached, please find the letter from Mr. Keith Schrimsher in which item 2 discusses appraisal status. Work continues on the appraisals of water rights and facilities and power generation plants. PDTI would be happy to discuss the status of the appraisals with you at your convenience and will supply additional information regarding the appraisals as it is completed.

PDTI will supplement this response with the additional information described above as soon as that information can be obtained and prepared. As discussed above, PDTI also may find it necessary to withdraw or modify this response if DP-1341 is not issued in a form agreeable to PDTI. We look forward to continued discussions regarding this matter.

Very truly yours,

Joseph A. Brunner, Manager
Environment, Land & Water
New Mexico Operations

JAB:jg
20030122-100
Main Mine Facilities Area

- GM-0: General Office
- GM-0: Mine Operations Office
- GM-0: Security
- GM-0: Safety
- GM-0: Human Resources / Training
- GM-0: Jerome Building
- GM-0: Warehouse
- GM-0: Truck Shop / Machine Shop / Welding Shop
- GM-0: Electric Shop
- GM-0: Pipe Shop
- GM-0: Carpenter Shop
- GM-0: Lumber Storage
- GM-0: Shovel Repair
- GM-0: Environmental Lab
- GM-0: Chapel
- GM-0: Electrical Building & Chlorine Shack
- GM-0: Warehouse & Core Storage
- GM-0: Analytical Lab

Legend

- Monitor well
- Railway (inactive)
- Designates Industrial FMIU Facility

Graphic Scale

Scale: 1" = 300'

M3 - Tyrone, PA - Industrial Site - Mine Plan - Main Mine Facilities Area
<table>
<thead>
<tr>
<th>TAG NO.</th>
<th>DESCRIPTION</th>
<th>Size (SqFt)</th>
<th>Soil Remediation (Y/N)</th>
<th>Post Mine Land Use</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM-01</td>
<td>General Office</td>
<td>18144</td>
<td>N</td>
<td>Industrial</td>
<td>Multiple office space, large open bays</td>
</tr>
<tr>
<td>MM-02</td>
<td>Mine Operations Office</td>
<td>17000</td>
<td>N</td>
<td>Industrial</td>
<td>Multiple office space &amp; change rooms</td>
</tr>
<tr>
<td>MC-17</td>
<td>Radiator/Powder House</td>
<td>31824</td>
<td>N</td>
<td>Industrial</td>
<td>15 Nordberg diesel engine generators</td>
</tr>
<tr>
<td>MM-03</td>
<td>Security</td>
<td>1025</td>
<td>N</td>
<td>Industrial</td>
<td>Truck scale</td>
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<tr>
<td>MM-04</td>
<td>Safety</td>
<td>1920</td>
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<td>Industrial</td>
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<tr>
<td>MM-05</td>
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<td>MM-06</td>
<td>Jerome Building</td>
<td>14700</td>
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<td>Industrial</td>
<td>Large storage bins</td>
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<td>Warehouse</td>
<td>24200</td>
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<td>Industrial</td>
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<tr>
<td>MM-08</td>
<td>Truck Shop/Machine Shop/Welding Shop</td>
<td>78000</td>
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<td>Industrial</td>
<td>Overhead cranes - 5@35 Ton, 1@20 Ton</td>
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<tr>
<td>MM-09</td>
<td>Electric Shop</td>
<td>8100</td>
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<td>Overhead crane - 35 Ton</td>
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<td>Pipe Shop</td>
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<td>Large open bays</td>
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<td>MM-11</td>
<td>Carpenter Shop</td>
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<tr>
<td>MM-12</td>
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<td>Industrial</td>
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<td>MM-13</td>
<td>Shevel Repair</td>
<td>8528</td>
<td>N</td>
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<td>Overhead crane - 30 Ton</td>
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<td>Environmental Lab</td>
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<tr>
<td>MM-15</td>
<td>Chapel</td>
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<td>Potential Historic Building</td>
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<td>Electrical Building &amp; Chlorine Shack</td>
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<tr>
<td>MM-18</td>
<td>Analytical Lab</td>
<td>5850</td>
<td>N</td>
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<td>MM-19</td>
<td>Car Wash</td>
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<td>MM-20</td>
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<td>MM-22</td>
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<td>Power House</td>
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<td>MM-24</td>
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<td>MM-25</td>
<td>Ambulance</td>
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</tbody>
</table>
Mill & Concentrator Area

- MC-30 Tailing Thickeners
- MC-37 Reclain Water Storage Tanks
- MC-38 Analytical Lab
- MC-34 Reclain Water Pump House
- MC-39 Terminal Tanks
- MC-35 Flotation Units
- MC-36 Secondary Crusher
- MC-32 Mill Pump House
- MC-31 SXEW Change Room
- MC-30 Intermediate Oil Storage
- MC-11 Primary Crusher
- MC-39 Process Water Tanks
- MC-36 Concentrator-Filter Plant & Dryer
- MC-34 Lime Storage
- MC-35 Mill Warehouse
- MC-36 Warehouse / Concentrate Unloading
- MC-37 Radiators
- MC-38 Fuel Tank Farm
- MC-38 Concentrator Building
- MC-38 Regent Building
- MC-38 Fuel Station
- MC-38 Tire Shop
- MC-38 Standpipe
- MC-38 Spigot Underflow Pump House
- MC-38 Tailing Pump House

Legend
- Monitor well
- Designates Industrial PMU Facility

GRAPHIC SCALE

SCALE: 1" = 500'
TERRAIN CLOSURE FOCUS OUT PLAN
MILL 3 CONCENTRATOR AREA
<table>
<thead>
<tr>
<th>TAG NO.</th>
<th>DESCRIPTION</th>
<th>SC (SqFt)</th>
<th>Y/N</th>
<th>COMMENTS</th>
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<tr>
<td>MC-01</td>
<td>Tailings Tank Booms</td>
<td>1051907</td>
<td>N</td>
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<td>MC-02</td>
<td>Reclaim Water Storage Tanks</td>
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</tr>
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<td>MC-03</td>
<td>Analytical Lab</td>
<td>10163</td>
<td>N</td>
<td>Reserved for Water Treatment</td>
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<td></td>
<td>Furnaces, Furnaces, Analytical equipment</td>
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<td>MC-04</td>
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<td>Reserved for Water Treatment</td>
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<td>Pumps (XX), 7-ton overhead crane (test only)</td>
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<td>MC-05</td>
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<td>Pumps</td>
</tr>
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<td>MC-06</td>
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<td>MC-07</td>
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<td></td>
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<td>MC-08</td>
<td>Mill Pumphouse</td>
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<td>Pumps (XX)</td>
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<td>MC-09</td>
<td>EOW Change Room</td>
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<td></td>
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<td>(unidentified)</td>
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<tr>
<td>MC-12</td>
<td>Process Water Tanks</td>
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<tr>
<td>MC-13</td>
<td>Concentrator-Filter Plant &amp; Dryer</td>
<td>10569</td>
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<td>Wildlife Habitat, Filters (XX), Rotary dryer, Vacuum pumps (XX), 5-ton monorail cars (2X), Concentrate pumps (XX), Conveying system</td>
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<td>Lime Storage</td>
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<td>Reserved for Water Treatment</td>
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<td>Mill Warehouse</td>
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<td>MC-22</td>
<td>Tire Shop</td>
<td>8840</td>
<td>N</td>
<td>Industrial</td>
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<tr>
<td>MC-23</td>
<td>Stamping</td>
<td>2040</td>
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<tr>
<td>MC-24</td>
<td>Spigot Underflow Pumphouse</td>
<td>6165</td>
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<td>Tailing Pumphouse</td>
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<td>MC-26</td>
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<td>DESCRIPTION</td>
<td>Size (SqFt)</td>
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<td>Post Mine Land Use</td>
<td>COMMENTS</td>
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<td>---------------------------------------------------------------------------</td>
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<tr>
<td>SX/EW Plant Area</td>
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<td></td>
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<td></td>
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<td>Tankhouse</td>
<td>40910</td>
<td>Y</td>
<td>Wildlife Habitat</td>
<td>227 EW cells (22LX4WX5'D), 5-ton overhead cranes (3X), 0.5-ton jib crane, Cathode presses (2X), Wensburg equipment, 6-ton scales (2X)</td>
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<td>Shop</td>
<td>3456</td>
<td>Y</td>
<td>Wildlife Habitat</td>
<td>1/4-ton jib cranes (2X), tool &amp; parts room, portable welders</td>
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<td>Leach Crew Office</td>
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<td>SX/EW Warehouse</td>
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<td>Substation</td>
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<td>Raffinate Storage Tanks</td>
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<td>Gonzales Cells</td>
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<td>Jamison Cells</td>
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<td>Organic Tanks</td>
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<td>Mixer/Settle Tanks</td>
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<td>Tank Farm</td>
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<td>Water Tank</td>
<td>P.S. Food Prol</td>
<td>Acid Tanks</td>
<td>MCC Building</td>
<td>Toolroom &amp; Storage</td>
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<td>------------</td>
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</table>
November 19, 2002

Mr. John Fenn, President
New Mexico Operations
Phelps Dodge Mining Company
Hurley, NM 88043

RE: Ongoing Need for Industrial Infrastructure for
Economic Development in Grant County, New Mexico

Dear Mr. Fenn:

The Silver City Grant County Economic Development Corporation (SIGRED) has reviewed correspondence between the New Mexico Mining and Minerals Division (MMD) and Phelps Dodge concerning Industrial Post-Mining Land Use of certain Phelps Dodge Facilities at the Chino, Tyrone and Continental Mines. SIGRED has also reviewed the specific facilities that Phelps Dodge proposes to maintain for potential industrial and business use in a post-mining scenario. SIGRED understands that facilities such as industrial maintenance and machine shops for mine equipment, warehouses, office buildings and other associated structures are proposed by Phelps Dodge to be maintained for potential industrial use in a post-mining scenario at the Chino, Tyrone and Continental Mines. SIGRED has reviewed the general locations of these facilities. It is SIGRED's understanding that supporting infrastructure to these facilities such as industrial power supplies, water supplies, roads, rail access and sewage systems would be available to these facilities as they are now.

SIGRED understands that the MMD desires a statement from an independent business development organization that these facilities would be a valuable resource for potential post-mining business development. SIGRED discussed this topic with Ms. Karen Garcia of the MMD on April 23, 2002 based upon her inquiry.

SIGRED is pleased to provide its opinion, based upon our understanding of the proposal above, that this type of infrastructure would indeed be useful in attracting future post-mining industries to Grant County if the infrastructure is in safe, working order. In fact, our office has discussed these types of needs in the present as well as the future with representatives of Phelps Dodge. We are working diligently to attract additional industries to our area. The resources described above are critical to the continued economic development of this area.
The New Mexico Economic Development Department (NMEDD) regularly sends out Potential Recruitment Opportunities (PRO) to the economic developers in the State. These PRO’s are from companies desiring to locate in New Mexico and looking for specific sizes of large, industrial buildings and available land. We must just as regularly respond with “no response” because we do not have 25,000 to 100,000 sq. ft. buildings. Lack of buildings and sites prevents us from having jobs for our citizens and increased gross receipts for our municipalities.

One example in our community of a business that was attracted to Grant County once additional infrastructure became available was Stream International which occupies a site previously occupied by a retail store. We are aware of heavy industries such as the locomotive repair industry and paper industry that are currently searching for sites with heavy industrial infrastructure resources such as those described by Phelps Dodge.

SIGRED believes it is in the best interest of our community to retain as much of this infrastructure as possible in good working order in the post-mining scenario to open new opportunities for industry to come into our county. If we can be of further assistance, please call.

Sincerely,

[Signature]

Judith Ward
Assistant Director, SBDC
Phelps Dodge Tyrone Inc.
Attn: Ty Bays
P.O. Box 571
Tyrone, NM 88065

Dear Mr. Bays:

The following is my response to Gerald Donaldson’s email request of January 8, 2003, requesting a status report similar to the issues discussed in our teleconference call on November 20, 2002.

1. The methodology used in my appraisal process for the scope of this assignment is straight forward and guided by the Uniform Standards of Professional Appraisal Practice (USPAP) with reference to the 2002 USPAP edition. My reporting standards also comply with the rules, regulations, and ethics set forward by the American Society of Farm Managers and Rural Appraisers. Each subject property identified will be reported and appraised individually “as is condition”. Property rights appraised will be Fee simple and leasehold interest together with all water rights appurtenant to the land if any less and except all mineral rights. Each appraisal format will be a Narrative Self Contained Limited Appraisal Report.

2. The Tyrone Appraisal Assignment is now complete. The final appraisals were mailed January 8, 2003.

3. The cost benefit analysis of the reclaimed mine areas as self-sustaining ecosystem (SSE) for post mining land use will require development of a hypothetical land use model. The model involves the standard valuation test of Highest and Best use analysis and risk-value inherent with the probable environmental obsolescence. As discussed area land sales of operational pristine mountain ranches have sold in a range of $100 to $250 a deeded acre. Clearly the Subject hasn’t any comparables and in a reclaimed condition land use will continue to have environmental risk inherited with ownership which passes through the chain of title most probably diminishing the associated lands demand and market value.
4. Regarding to the Tyrone Mine Facilities consisting of the truck shop, warehouses, offices, machine shop facilities and related infrastructure it is my opinion that these facilities have post-mining industrial use. As is they have value in use and likely could be leased to state, county, municipal or area business. This assumption would probably be supported by a highest and best use analysis, which I have not done.

That is the conclusion of my summary and updates. Please let me know if you need clarification on any of these matters.

Sincerely,

Keith L. Schrimsher

KLS:rr
PROTOCOL FOR
BUILDING INVENTORY REVIEW

INTRODUCTION

The New Mexico Mining and Minerals Division (MMD) has requested that Phelps Dodge Tyrone, Inc. (Tyrone) provide and implement a protocol to ensure that buildings are structurally sound prior to closeout plan approval. Tyrone currently inspects and upgrades the structural and safety features of its buildings as needed to meet its own high standards of safety and quality assurance. Tyrone is also inspected regularly by Mine Safety and Health Administration officials which includes a variety of building code standards, such as the National Electric Code, and safety related aspects of other codes that have been adopted into MSHA safety codes.

New Mexico's regulations governing construction do not require ongoing building inspections to certify that buildings remain suitable for occupancy and use. However, in order to be responsive to MMD's request, Tyrone proposes the following protocol in addition to the current engineering and safety procedures already in place at Tyrone.

PROTOCOL

Buildings will be reviewed under the supervision of an architect registered in the State of New Mexico and/or an engineer registered in the State of New Mexico. The review will be submitted to MMD prior to the approval of the closeout plan and prior to each renewal of the closeout plan.

The following deliverables result for each building:

a) photographs of at least two exterior elevations of each building
b) the following inventory code check forms for the proposed occupancy
ARCHITECTURAL CODE CHECK

1. Use
   Table 33-a Equivalent
   Minimum Number of Exits Required
   Occupant Load Factor
   Existing Toilet?
   Handicapped Access Required?
   Modifications Listed Below are Required for Compliance

2. Occupancy
   Description
   Type

3. First Floor Area
   Second Floor Area

4. Does this structure qualify as exempted?

5. Distance to Adjacent Structures
   Building Name   Direction   Distance

6. Basic Allowable Floor Area
   Construction Type
   After Allowances
   Allowances Permitted
   Area separations recommended, etc. are listed below

7. Existing Building Complies with Construction Type
   because it is made of the following materials:

   If not, the existing building need not be brought up to code unless its use and occupancy
   is changed, but may be modified for safety and maintained. Modifications listed below
   are recommended

8. Exit Requirements
   Existing
   Modifications listed/recommended below are required for compliance:

9. Special Health Department Considerations Based on Use:
1/21/2003

**STRUCTURAL CODE CHECK**

<table>
<thead>
<tr>
<th>No.</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

1. **UBC Load Requirements**
   - Floor LL
   - Roof LL
   - Seismic
   - Wind
   - Balcony LL

2. **Roof Structure:**

3. **Wall Structures:**
   - N
   - S
   - E
   - W

4. **Floor Structures:**
   - 1st Floor
   - 2nd Floor

5. **Foundations:**

6. **Deficiencies:**

7. **Recommendations:**

---

**MECHANICAL CODE CHECK**

<table>
<thead>
<tr>
<th>Building</th>
<th>No.</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

1. **Gas:**

2. **Water:**

3. **Sewer Connection:**

4. **HVAC Nameplate Data:**

5. **Plumbing:**

6. **Furnace:**

7. **Hot Water Heaters:**

8. **Deficiencies:**

9. **Recommendations:**

---

Page 3 of 4
**ELECTRICAL CODE CHECK**

1. **Building**: 
   - Service: 
   - Voltage: 
   - Conductor Size: 
   - Phase: 
   - Amp:  
   - Fuse/CB Size: 

2. **Panels**:  
   - Voltage: 
   - Amp: 
   - Main: 
   - # Circuits: 

3. **Building Wiring Method**:  
   - Conduit: 
   - Romex: 
   - Other: 

4. **Lighting Type**:  
   - Interior: 
   - Exterior: 
   - Light Pollution Code Compliance: 

5. **Receptacles**:  
   - Grounded: 
   - Ungrounded: 

6. **Clearances**: 

7. **Grounding**: 

8. **Deficiencies**: 

9. **Recommendations**: 

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October 2, 2002

Mr. Joseph A. Brunner, Manager
Environment, Land & Water - NM Operations
Phelps Dodge Tyrone, Inc.
P.O. Drawer 571
Tyrone, NM 88065

SUBJECT: Summary of Outstanding Permitting Issues on the Tyrone Mine Closeout Plan Application, Phelps Dodge Tyrone, Inc. Permit No. GR010RE (97-1)

Dear Mr. Brunner:

The Mining and Minerals Division (MMD) has reviewed correspondence and records regarding the status of Phelps Dodge Tyrone, Inc.'s Tyrone Mine Closeout Plan revision process. Our records indicate Phelps Dodge Tyrone, Inc., (Tyrone) was notified of deficiencies associated with various Closeout Plan submittals and associated corrective measures through letters dated August 22, 2000 and January 2, 2001. In a letter dated July 19, 2001, MMD made a determination pursuant to Subsection G of 19.10.5.506 NMAC of the New Mexico Mining Act Rules that the March 19, 2001 Tyrone Closeout Plan was not technically approvable due to such deficiencies. To date, the permitting status remains the same.

Timing is critical, and Secretary Rivera expects Tyrone to make a sincere and dedicated commitment to comply with the Mining Act on that basis. Tyrone has been aware of the need to obtain approval for its closeout plan since 1993 when the Mining Act was adopted and MMD expects Tyrone to turn its immediate attention to curing the deficiencies in its closeout plan proposal.

This letter will describe the necessary information Tyrone must provide immediately in order to receive an approvable closeout plan decision from MMD.

I. WAIVER REQUESTS

Tyrone has requested a waiver from achieving a self-sustaining ecosystem/post-mining
land use for all pits at the Tyrone Mine, along with all stockpile outslopes pursuant to Subsection B of 19.10.5.507 NMAC and §69-36-11(B) 3 of the Act. A waiver for open pits or waste units from the requirement of achieving a post-mining land use (PMLU) or self-sustaining ecosystem (SSE) must show that achieving a PMLU or SSE is not technically or economically feasible or is environmentally unsound. In addition, MMD must find that: 1) measures will be taken to ensure that the open pit or waste unit will meet all applicable federal and state laws, regulations and standards for air, surface water, and ground water protection following closure; and 2) the open pit or waste unit will not pose a current or future hazard to public health or safety.

The following paragraphs identify what is necessary to complete the waiver evaluation process:

**Stockpile Outslopes and Open Pits**

For areas for which Tyrone is requesting a waiver, Tyrone must provide the least cost estimate for reclaiming all individual pits, except the main pit, and stockpiles to meet the requirements of Subsection A of 19.10.5.507 NMAC. If, however, Tyrone is required to reclaim all outslopes due to other agency requirements then waivers may not be needed.

Tyrone must also provide a cost/benefit analysis for each stockpile and pit (except the main pit) where waivers are requested to show how meeting a SSE or PMLU is not economically feasible in accordance with Subsection B of 19.10.5.507 NMAC. The cost/benefit analysis should examine all potential benefits, such as land values, value to wildlife, and air quality considerations, of reclaiming to a SSE or PMLU, and the costs of attaining those benefits.

Tyrone has indicated in its May 2001 Closeout Plan submittal that meeting a SSE or PMLU is environmentally unsound for pits and stockpile outslopes. Tyrone’s justification is a general assertion and does not provide a scientific basis or information to evaluate the appropriateness of a waiver for each stockpile and pit. For example, Tyrone has suggested in its Closeout Plan that backfilling pits would negatively impact ground water quality; however, Tyrone has not provided scientific justification to substantiate this assertion. In addition, Tyrone’s assertion that disturbing currently undisturbed land for reclamation purposes is environmentally unsound does not consider the benefits gained by such reclamation or the fact that those areas ultimately will be returned to wildlife habitat. Tyrone must provide for each stockpile and pit justification for its position consisting of scientifically-based, detailed information.

In addition, Tyrone has not demonstrated that meeting a SSE or PMLU on certain pits and stockpile outslopes is not technically feasible. For example, while Tyrone states that relocation of interceptor wells is technically infeasible, technology exists that allows relocation and protects water quality. MMD does not agree with this assessment.
Human Health and Safety

To ensure that the pit areas that may receive waiver approvals do not pose a current or future hazard to public health or safety, Tyrone must do the following:

1. Specify where warning signs will be posted and at what intervals. For example, signage could be posted on fencing at 500-foot intervals and at all access points, warning of potential hazards present.
2. Specify where gates will be for points of access through the continuous razor wire topped chain link fence that will be located on top of the berm.
3. Tyrone must commit to monitoring stability of the pit walls on a regularly scheduled basis to identify potential failure areas that may adversely impact the environment and public health or safety. If failure areas are identified through monitoring, Tyrone must agree to propose measures to eliminate the hazard within a reasonable time frame of identification for MMD approval.
4. Tyrone must provide detailed information concerning the long-term stability of pit highwalls (stability after closeout of the pit).

II. INDUSTRIAL POST-MINING LAND USE

Tyrone proposes an industrial post-mining land use for the ancillary facilities and areas identified as "industrial" on Figure 5-5 of the Tyrone Closeout Plan. An industrial PMLU may be appropriate for this site, however, there are outstanding issues that must be addressed prior to MMD being able to approve the proposed Industrial PMLU. The following comments address these issues directly and provide an approach for meeting the requirements of the Act and Rules.

Tyrone must provide information demonstrating the feasibility of these facilities as industrial prior to closeout plan approval. The information should include:

1. an inventory of existing structures proposed to remain for the Industrial PMLU, including structure exterior dimensions and an audit of structure contents;
2. justification of the use for each existing structure and contents remaining in the Industrial PMLU;
3. documentation of compliance with local zoning ordinances and building codes for each existing structure remaining in the Industrial PMLU;
4. availability of sufficient water for the proposed industrial operations;
5. preliminary working drawings and design specifications detailing how each area will be reclaimed and the Industrial PMLU established;

6. the type of industrial facility that will be implemented.

7. a certification by a professional building Inspector that the buildings are in good condition.

This information shall be updated for MMD approval at periodic intervals not to exceed five years.

In addition, the following two items should be included in Tyrone's closeout plan.

1. Tyrone must provide a commitment in the closeout plan to provide an Erosion Control Plan for the industrial PMLU areas. The Erosion Control Plan should describe erosion measures that will mitigate disturbances including features such as berms, culverts, diversions, water bars, sediment control ponds, armoring or riprap, and revegetation. The Erosion Control Plan should include locations, designs, and proposed maintenance of erosion control measures.

2. Tyrone shall provide to MMD, following cessation of mining operations but prior to implementation of the industrial PMLU, demonstration of the continued viability of the industrial PMLU at market economic conditions then prevailing by providing:
   a) a final building inspection certification (as described above);
   b) feasibility information as described above); and
   c) a certified report prepared by a local governmental land use authority confirming that a need exists in business communities located within reasonable geographic proximity of the site for commercial occupation by those business communities of the industrial PMLU areas.

III. FINANCIAL ASSURANCE

The financial assurance proposal submitted by Tyrone does not meet the requirements of 19.10.12 NMAC. Tyrone should submit a revised financial assurance proposal that is consistent with costs associated with reclamation requirements in the approveable Tyrone Mine closeout plan, once developed. In addition, it must include a description of financial instruments to be used and a justification of how they meet Rule 12.

IV. CONCLUSION

Tyrone, NMED and MMD have worked closely on solutions to compliance requirements under the Water Quality Act and the Mining Act. NMED has submitted a draft discharge Closure permit to the DP-1341 hearing officer. MMD has reviewed this draft, and it
addresses certain Mining Act technical deficiencies present in the revised Tyrone closure/closeout plan submittal. If DP-1341, once issued, contains changes to provisions in the draft permit submitted by NMED that affect MMD closeout plan requirements, MMD will need to evaluate whether Mining Act requirements are still met. If not, Tyrone will need to alter its closeout plan application to reflect those changes and meet Mining Act requirements.

Notwithstanding the pending nature of DP-1341, MMD expects Tyrone to continue to work with MMD in achieving an approveable closeout plan, obtaining a written determination from the NMED Secretary, and complying with the Mining Act.

MMD recommends PDTI immediately submit information to complete this process. We are available to discuss these matters and to expedite resolution of the issues. Please contact me if you have questions at 505.476.3432.

Sincerely,

Fernando R. Martinez
Manager
Mining Act Reclamation Program
Mining and Minerals Division

Cc  Douglas M. Bland, Director, Mining and Minerals Division
    Karen W. Garcia, Chief, Mine Regulatory Bureau
    Marcy Leavitt, NMED
    Ted Apodaca, EMNRD
    File