

PERMIT REVISION 96-1 TO PERMIT NO. TA001RE

**QUESTA MINE SITE - TAILINGS
EXISTING MINING OPERATION**

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

Permit Revision 96-1 to Permit No. TA001RE is issued by the Director of the Mining and Minerals Division (MMD) of the New Mexico Energy, Minerals and Natural Resources Department to:

Molycorp, Inc.
P.O. Box 469
Questa, NM 87556

(Permittee) for the Questa Mine Site, located in Taos County, New Mexico.

This permit revision incorporates the Closeout Plan for the Tailings Facility of the Questa Mine into Permit No. TA001RE. The following sections of Permit No. TA001RE are added or revised to read as follows:

SECTION 1. **PERMIT APPLICATION PACKAGE**

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

See Appendix A

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

See Appendix B

SECTION 2. **PERMIT AREA AND DESIGN LIMITS**

1. The permit area encompasses portions of the following areas: Sections 1 and 2, Townships 28 North, Range 12 East, Sections 24, 25, 26, 35, and 36, Township 29 North, Range 12 East, Sections 5 and 6, Township 28 North, Range 13 East; Township 28 North, Range 13 and 14 East, and Township 29 North, Range 13 and 14 East, in Taos County, New Mexico (NMPM). The approved permit area is delineated in the PAP, in Revision 3 of Application for an Existing Mining Operation, submitted November 29, 1995, on the following figures:

PERMIT REVISION 96-1
TO PERMIT NO. TA001RE
Page 2 of 24

- A. Figure 1, *Site Map of Molycorp Questa and Mine Plant Facilities*, October 31, 1995
 - B. Figure 2, *Mine and Mill*, Sheets 1-4, October 16, 1995
 - C. Figure 3, *Tailings Disposal*, Sheets 1 and 2, October 18, 1995
 - D. Figure 4, *Tailings Dam*, October 17, 1995
2. The approved design limits are delineated/described in the PAP on Figures 1 through 4, and individually identified in Table 1 of Revision 3 of Application for an Existing Mining Operation, submitted November 29, 1995. The units shown on Figures 1 through 4 and identified in Table 1 of Revision 3 of Application for an Existing Mining Operation, are approved as existing units and are subject to the reclamation standard of 507.A of the Rules absent a waiver under 507.B.

SECTION 3. **FINDINGS OF FACT**

- 1. The Permit Application and Closeout Plan are complete and contain all of the information as required by 503.F.1 and 506.J.1 of the Rules.
- 2. The Permittee has provided written information stating the name and official business address of the Permittee and its agent for service of process, as required by 503.F.2 of the Rules.
- 3. The Permittee has provided the required signature and certification, as required by 503.F.3 of the Rules.
- 4. The Permittee has paid the revision application fee in the amount of \$7,500, as required by 503.F.4 of the Rules.
- 5. Public notice for the closeout plan was given, as required by Subpart 9, and 506.J.1 of the Rules.
- 6. The approved post-mining land uses (PMLU) for the permit area is wildlife habitat/self-sustaining ecosystem. The PMLU uses are described in Section 4.8 of the April, 98 *Questa Tailings Facility Revised Closure Plan*, entitled "Post Closure Land Use," of the Closeout Plan.
- 7. The Permittee has provided satisfactory financial assurance to complete the closeout plan in the amount of \$23,027,393 as required by 506.J.2 (for a generalized itemized breakdown of the financial assurance amount please see Exhibit 1). The financial assurance instrument is in the form of a surety bond.

8. The Secretary of Environment has provided a written determination stating that the permit applicant has demonstrated that the activities to be permitted or authorized will be expected to achieve compliance with all applicable air, water quality and other environmental standards if carried out as described in the Mining Act Closeout Plan, as required by 506.J.5 of the Rules.
9. The Permittee has submitted a notarized statement signed by the applicant that he agrees to comply with the performance and reclamation standards and requirements of the permit, Subpart 5 and the Act and allows the Director to enter the permit area without delay for the purpose of conducting inspections during mining and reclamation, as required by 503.F.6 and 506.J.6 of the Rules.
10. According to 506.B, a proposed closeout plan or a proposed closeout plan for a portion of the mine shall include a detailed description of how the permit area will be reclaimed to meet the requirements of Section 69-36-11B(3) for the Act and the performance and reclamation standards and requirements of Subpart 5. Reclamation of the permit area and the performance and reclamation standards of Subpart 5 are addressed as follows:
 - A. The basic components of the reclamation work include:
 - a. Surface shaping and regrading,
 - b. Building demolition and cleanup,
 - c. Cover placement on disturbed areas,
 - d. Construction of drainage structures,
 - e. Revegetation of disturbed areas,
 - f. Seepage interception,
 - g. Post closure monitoring and maintenance,
 - h. Development of a post closure land-use of wildlife habitat/self-sustaining ecosystem.

The Closeout Plan as described in Appendix B and modified by the documents in Appendix B is approved subject to the conditions in Sections 6 and 7.

SECTION 4. CLOSEOUT PLAN SUMMARY

The New Mexico Mining Act Closeout Plan, as proposed by Molycorp, consists of the documents identified in Appendix B. A summary of the Revised Closeout Plan submitted by Molycorp is provided below.

Surface Shaping Plan

1. Molycorp shall achieve a final tailings surface topography that will result in positive

drainage and eliminate ponding. Molycorp shall achieve this, over time, by placement of tailings during the further operation and development of the tailings ponds.

2. Other than construction of drainage channels and swales, no additional re-shaping of the final tailings surface or embankments is proposed. The dams and dikes will be closed-out with their current and future developed shapes and profiles.
3. To facilitate closure, the tailing impoundment surfaces will be constructed to drain from northeast to southwest. At closure, ponds shall be located at the western boundaries of five individual tailing impoundment zones. The ponds shall be breached and drained by constructing spillways to the western diversion channel. The surface of the tailing impoundments shall be sloped towards the ponds and each zone shall include riprap-lined drainage swales. The Pope Lake embankment shall be breached to allow free flow of water along the western diversion channel.

Building Demolition and Clean-up Plan

Unit 3 Reclamation – Tailings Facility

4. Molycorp will remove two buildings at closure: the administration/change building and the IX water treatment plant. The administration building will be demolished and the debris transported and disposed of in a landfill. The water treatment plant will continue to be used after closeout until treatment of the tailings surface and groundwater is no longer needed. To the extent possible, the building cladding, tankage, pumps and reverse osmosis units will be disassembled and sold. The remaining metal scrap will be transported to the Questa mine site to be consolidated with the much larger volume of mine and mill scrap metal and sold or disposed of with mine/mill scrap. The concrete floor and foundations will be broken up. This material and any other building rubble will be transported to and disposed of in the landfill used for construction and demolition debris at the Questa mine site. The landfill is located in Spring Gulch, 1500 feet northeast of the underground ore mill stockpile area, identified on Figure 2 of the *11/25/95 Revision 3 to Application for a Permit for an Existing Mining Operation* (Design Limits).
5. Following removal of the buildings the construction area will be graded to a smooth surface. Alluvial material will be placed to a depth of 9 inches, and the disturbed area will be re-vegetated in accordance with the re-vegetation method used for re-vegetation of the tailings cover.

Unit 2 Reclamation – Tailings Pipeline

6. All tailings delivery piping and any concrete or timber cribs that were used to support the tailings lines will be removed. Concrete and timber will be transported to and disposed

of in a landfill at the Questa Mine site. Tailings piping will be sold off as second hand piping and scrap.

7. The concrete sump structure at the lower dump sump will be removed and/or broken up and covered with at least 3 feet of clean fill. The upper sump will be reclaimed in its current configuration. Monitor wells will be plugged if they are no longer needed for monitoring, otherwise they will be maintained as necessary. Roadways no longer needed for continued access will be reclaimed.

Cover Placement on Disturbed Areas

8. Molycorp shall place a cover over areas where tailings have been deposited. The final cover will provide the following: 1.) physical stabilization of the tailings; 2.) chemical stabilization of the tailings; 3.) support vegetation; and 4.) support a beneficial post-mine land use.
9. The cover type shall be a “storage” cover designed to capture and store water thereby limiting water infiltration into the tailings.
10. Five impoundments zones will become available for reclamation over a period of several years prior to terminal closure. These will be covered progressively as they become inactive.

Drainage Plan

11. The final tailings surface will be above the general terrain such that the tailings will provide an overall mound allowing for positive drainage off the tailings surface. Low drainage ways will be represented by the large west and east diversion ditches on either side of the reclaimed tailings mound. The east and west diversions will become permanent drainage channels. These channels are designed to pass the 1000-year storm event.
12. Surface drainage from the tops of five tailings impoundment areas will be collected in shallow riprap lined swales constructed on the tailings surface. The swales will drain to the west diversion channel. Where the swales drain into the diversion channel, riprapped spillways or concrete drop structures will be constructed to prevent erosion of drainage outlets. The drainage swales and spillways will be designed and constructed to pass the 100 year/24 hour storm event.
13. Gravel alluvium having a high resistance to sheet erosion will be used to cover the tailings and construct the dam slopes. Revegetation of tailings surfaces and out slopes will also be used to stabilize the pond surfaces and out slopes and reduce sheet erosion.

Revegetation of Disturbed Areas

Unit 3 Reclamation – Tailings Facility

14. Molycorp shall revegetate the tailing impoundments as part of site closure to: 1) maximize the ability of the water storage cover to reduce infiltration into underlying tailings; 2) achieve an appropriate land use; and 3) provide protection from wind and water erosion. The revegetation plan will consist of the establishment of four plant community types, over specified disturbed areas of the site, as described in the Closeout Plan. The four plant communities will include: 1) pinyon-juniper woodland; 2) mixed woodland & shrubland; 3) shrub community; and 4) grasses and forbs.
15. At least 60 days prior to initiation of reclamation, Molycorp shall submit for MMD approval a plan that provides for landscape diversity and the creation of other habitat elements such as rock piles. Molycorp shall consult with the New Mexico Game and Fish Department on the creation of habitat elements.
16. Each plant community will be evaluated on standards to determine reclamation success. The standards for each plant community will include: woody plant density, foliar cover, herbaceous production, and diversity.
17. Each plant community type will be seeded and planted with a different mix of species. Species which support a given plant community type will be used. The first 3 plant communities will be seeded at a lower rate than the grass/forb community to reduce competition to the woody plants.
18. During the first three growing seasons Molycorp will monitor and apply appropriate management practices to ensure that the reclaimed area is progressing. Maintenance may include fertilization, weed control, pest control, and augmented seeding and/or transplanting.
19. Once cover has been applied, transplanting and seeding will take place. Seeding will be conducted by drill seeding onto flat accessible areas, and hydroseeding steeper inaccessible areas.
20. Five impoundment zones have been designated for progressive reclamation over a five-year closure period.

Unit 2 Reclamation – Tailings Pipeline

21. Once the pipeline has been removed, reclamation of the pipeline right-of-way will take place. Seedbed preparation will take place where necessary. Seeding will be accomplished by broadcast seeding followed by hydromulching.

Seepage Interception Plan

22. The existing seepage interception system may be upgraded and will be operated in accordance with the requirements and conditions of DP-933 and as approved by NMED.

Monitoring and Maintenance Plan

Performance of Structures

23. At the time of closure, the continued monitoring of piezometers will be reviewed, and a select number will continue to be monitored annually as part of the groundwater monitoring program.
24. Monitoring inspections will be conducted at least annually pursuant to State Engineer requirements. The inspections will cover erosion, seepage, deterioration and vegetation development related to the dam embankments.
25. Inspections addressing the performance of the tailings cover, shallow drainage swales, and spillways will take place for a period of 15 years or longer after closure.
26. Inspections will be conducted by a professional engineer.

Groundwater and Surface Water Monitoring

27. The existing groundwater and surface water monitoring programs will be continued after closeout. The monitoring programs will be adjusted as required by NMED to monitor water quality conditions.

Revegetation

28. Molycorp shall perform maintenance and monitoring for the first three years post-planting. Monitoring alone will be continued annually starting on year four, post-planting. Monitoring will continue for a minimum of twelve (12) years after the last augmented seeding, planting, fertilization, and/or irrigation. To address requirements of the New Mexico Mining Act Rules \geq 1204.A, maintenance after the first three years post-planting will consist only of interseeding to establish diversity. Interseeding will not be conducted in the last three years of the post-planting period.

29. During the 12-year monitoring period Molycorp shall collect vegetation data on reclaimed areas. The monitoring shall be done as a means of meeting financial assurance release requirements. The monitoring data to be collected shall include density, ground cover, production diversity, species abundance, and shrub and tree survival and growth.
30. The revegetation standards that Molycorp shall meet to achieve financial assurance release during the last 2 years of monitoring include:

Woodland Community:

density = 200 stems/acre trees, 100 stems/acre shrubs

ground cover = 30%

herbaceous production = 150 lbs/acre/year

diversity = 2 species trees, 2 species shrubs, 2 species grass, and 1 species forb (forb and grass species must represent at 3% of the relative cover)

Mixed Community:

density = 300 stems/acre trees and shrubs

ground cover = 35%

herbaceous production = 300 lbs/acre/year

diversity = 3 species trees and shrubs, 2 species grass, and 1 species forb (forb and grass species must represent at 3% of the relative cover)

Shrub Community:

density = 340 stems/acre shrubs

ground cover = 40%

herbaceous production = 400 lbs/acre/year

diversity = 2 species shrubs, 2 species grass, and 1 species forb (forb and grass species must represent at 3% of the relative cover)

Grass/Forb Community:

ground cover = 50%

herbaceous production = 600 lbs/acre/year

diversity = 3 species grass, and 2 species forb (forb and grass species must represent at 3% of the relative cover)

Wildlife

31. Wildlife monitoring will be conducted in conjunction with the vegetation monitoring program. At a minimum, beginning year 10 after closure, pellet counts will be conducted annually for 2 years at the tailings facility and compared with pellet counts in the surrounding ecosystem.

Post Closure Land-Use Plan

Unit 3 PMLU – Tailings Facility

32. The post closure land use will be wildlife habitat/self-sustaining ecosystem. The establishment of the proposed vegetation types will create plant communities, which will be suitable for a range of wildlife use. To provide for wildlife habitat, portions of the reclaimed tailings area will be established to provide for four separate ecosystem types: 1.) pinyon-juniper woodland; 2.) mixed tree and shrub community; 3.) sagebrush community; and 4.) grass-forb community.
33. Some roads and fences will be left post-closure to facilitate and control access to the site. Roads will be needed to provide for access for maintenance and monitoring. Roads not needed will be reclaimed by ripping, seeding and planting.

Unit 2 PMLU – Tailings Pipeline

34. The post closure land use for the pipeline will be wildlife habitat, except on areas where the pipeline crosses private property. The private property owner will determine whether the PMLU is to be for wildlife habitat or agricultural use.

SECTION 5. PERMIT COVERAGE

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

SECTION 6. COMPLIANCE WITH THE PERMIT

The Permittee shall conduct reclamation operations only as described in the approved PAP, PRP and permit and any revisions or modifications approved by the Director. The Permittee shall comply with any and all conditions that are incorporated into the PAP and PRP. The Permittee and MMD have exchanged various correspondence between June 1994 and the date this permit is approved regarding the proposed mining and reclamation operations and the conditions of this permit. The Permittee and MMD may utilize correspondence during the relevant period which has not been incorporated into the PAP or the PRP to interpret the plans for the proposed mining and reclamation operations and the conditions of this permit, including the PAP and the PRP.

SECTION 7. CONDITIONS

This permit is subject to the following conditions:

General

1. The Permittee may be subject to enforcement action according to Subpart 11 of the Mining Act Rules for failing to conduct reclamation and closeout operations as described in the Closeout Plan or for failing to submit any of the following:
 - A. annual reports as required by 509;
 - B. annual fees as required by 202;
2. Molycorp shall include in the annual reports the following requirements: 1) status of the operation including but not limited to the status of closure activities for each tailing impoundment zone; 2) any maintenance and repair work conducted for any closure component; 3) production figures for the operation; 4) identify on maps the location of the disturbed areas and if reclaimed the date that the work was done; 5) indicate the number of disturbed acres, the number of acres reclaimed and the number of acres yet to be reclaimed; 6) indicate the current market value of any collateral posted as for financial assurance; 7) indicate compliance status for all existing state and federal environmental permits held by Molycorp addressing the tailings facility; 8) monitoring data collected on revegetated areas of the tailings as described in Section 4, number 27; and 9) wildlife observations and monitoring data collected on the tailings.
3. The Permittee shall notify MMD 30 days prior to performing any permanent closeout/reclamation activities at the tailings site.

Financial Assurance

4. The Permittee shall evaluate the adequacy of the financial assurance approved as a part of the permit every three years, beginning April 30, 2004. This evaluation shall be provided to MMD with the annual report due every April 30th.
5. Molycorp shall not be released from final financial assurance requirements until the approved post-mine land use is achieved and the performance standards have been met in accordance with requirement 30, under Section 4 of this permit, or as modified and approved by MMD.

Erosion Control

6. The Permittee will inspect reclaimed areas for excessive erosion. Areas with excessive erosion will be re-established as necessary. A report of measures taken to mitigate any immediate damage, and a corrective action plan, addressing any major repairs, will be submitted to MMD, for approval, within 30 days of inspection. A follow-up report shall be submitted to MMD, within 30 days of corrective actions, that describes conditions

before and after measures were taken to mitigate damage caused by erosion. The Permittee will also inspect erosion control structures for damage and effectiveness. Damaged devices will be repaired or redesigned, as necessary. A report of measures taken to mitigate any immediate damage, and a corrective action plan, addressing any major repairs, will be submitted to MMD, for approval, within 30 days of inspection. Inspections shall be conducted monthly following final cover placement at any tailings impoundment zone, and quarterly thereafter. Molycorp shall develop a standard approach as part of the Surface Erosion and Stability study described in condition 24 that will be used to identify excessive erosion at the tailings facility.

Early Closure

7. Closeout/reclamation activities, as described in the Closeout Plan, shall begin 180 days after cessation of mining, as defined in §107.X of the New Mexico Mining Act Rules. If Molycorp wishes to suspend reclamation pursuant to this permit and the cessation of mining activity will be temporary in accordance with the definition for standby addressed under § 107.OO of the New Mexico Mining Act Rules, Molycorp shall submit an application for a permit revision for standby status pursuant to Section 505 and Subpart 7 of the New Mexico Mining Act Rules.
8. In the event of an early cessation of mining that is not as described in the Closeout Plan schedule, Molycorp shall submit a revision to the permit. The submittal shall include construction designs that address how closeout and reclamation will proceed to facilitate positive drainage, prevent ponding and allow for the establishment of a self-sustaining ecosystem. The plan shall be provided to MMD for approval within 90 days after cessation of mining.

Cover

9. Molycorp shall cover the tailings impoundments with a minimum of 36 inches of alluvium as part of facility closure. The cover shall provide a substrate for the establishment of a self-sustaining ecosystem and provide for the protection of wildlife. The alluvium shall also serve as a water storage cover to minimize infiltration of precipitation and storm water into underlying tailings and discharge of tailings leachate into groundwater and surface water. The 36-inch requirement shall be re-evaluated and subject to modification based on condition 40 under On-going Studies below.

Revegetation

10. Molycorp shall submit for MMD approval seed mixtures and planting rates for all areas identified in Units 2 and 3 to be revegetated as part of the Closeout Plan. The proposed seed mixtures and planting rates shall be provided to MMD within 3 months of this permit revision approval. MMD will consult with the New Mexico Department of Game

and Fish on use of native and non-native plant species in establishment of a wildlife post-mining land use.

11. Molycorp shall provide a revised revegetation plan, for MMD approval within 3 months of the effective date of this permit, that describes how alluvial cover material will be amended with fertilizer and/or organic material to assist in the establishment of self-sustaining plant communities of the types described by Molycorp in the Closure Plan. The plan shall be interim and shall be modified based on the results of the revegetation and borrow materials studies described in Conditions 18 through 23 and 26 through 27.
12. Molycorp shall submit for MMD approval a plan, within 3 months of permit approval, that includes the methods to be used to collect vegetation data on reclaimed areas once closeout of the site has been initiated. The plan shall include the statistical methods to be used to verify sampling confidence and adequacy.

Monitoring

13. Molycorp shall provide the results of annual revegetation monitoring to MMD in the annual reports due on April 30th of each year. Revegetation monitoring shall include measurements of plant diversity, density, cover, production, species abundance, and shrub and tree survival and growth. The last 3 years of the 12-year post-closure, revegetation monitoring period shall be used to address the standards to achieve financial assurance release.
14. Molycorp shall conduct post-closure monitoring of meteorological conditions at the Tailings Impoundments. Meteorological conditions that shall be recorded include air temperature, relative humidity, wind speed, wind direction, precipitation, and net radiation. A summary of meteorological data collected shall be reported annually to MMD. The monitoring period shall continue for a minimum period of 12 years consistent with post-closure revegetation monitoring and release of financial assurance under the Mining Act. Additional monitoring shall be in accordance with DP-933 and as approved by NMED.

Construction Quality Assurance Plan

15. Molycorp shall submit a construction quality assurance (CQA) plan to MMD for approval at least 180 days prior to placement of any cover material over any tailings impoundment zone for final closure. The CQA report shall include, at a minimum, as-built drawings, a final topographic map with no greater than two-foot contour intervals, a summary of work conducted, soil testing results, laboratory analytical reports, identification of the location and extent of borrow areas, and construction photographs.
16. Detailed engineering designs for outlet structures and riprap-lined channels and swales

shall be submitted for MMD approval at least 180 days prior to construction. As-built drawings and final design specifications shall be included with the CQA report described in Condition 15.

Contingency Plan

17. Molycorp shall submit a contingency plan for MMD approval within 3 months of the effective date of this permit approval to address failure of any component of the revised closeout plan, including failure of covers or revegetation, failure of surface run-on and run-off controls, or failures in slope stability, that may result in non-compliance with the definition of reclamation, as defined in §107.HH of the New Mexico Mining Act Rules.

On-going Studies

Revegetation

18. Molycorp shall revise the *Work Plan for Revegetation Test Plot Program – Tailings Facility* (Molycorp Inc., February 29, 2000) and submit it for MMD approval within 3 months of the effective date of the permit approval. At a minimum, the test plot study will be designed to measure and evaluate the following: 1) species abundance, 2) plant transplant survival rates, 3) shoot growth for woody plants, 4) plant root development and distribution, 5) woody plant density, 5) plant cover, 6) species diversity, 7) rooting depth, and 8) bioaccumulation of molybdenum and other metals in plant tissue as required by condition 29. Molycorp must establish test plots, beginning in the spring or summer of 2001, that adequately evaluate the ability to achieve the four ecosystem types described in the Closeout Plan.
19. Molycorp shall include in the test plot study, at a minimum, the following parameters to evaluate their impact on plant growth: thickness of cover, organic matter application, seeding rates and mixtures, fertilizer rates and types, mulching applications, and soil surface preparation.
20. Molycorp shall submit to MMD by December 31, 2001 a description of the as-built vegetation test plots. This report shall include at a minimum a description of the each of the test plots including number, size, location, and applications/parameters identified in conditions 18 and 19.
21. Molycorp shall include in the revised revegetation plan, for MMD approval, the methods to be used to collect vegetation data along with the statistical methods to be used to verify sampling confidence and adequacy. The methods shall match those used to evaluate reclamation on reclaimed areas.
22. Molycorp shall submit annual reports to MMD presenting the results of the test plot

study, including recommendations for improvements to the test plot study. At the end of the first 3-year test plot evaluation period Molycorp shall submit an evaluation of the test plots. The report shall provide a discussion of the success or failure of specific revegetation efforts, evaluate trends, and identify limitations to plant establishment. The study will be continued until MMD makes a determination in consultation with NMED that the study will be discontinued.

23. If the results of the Revegetation Study indicate that additional or alternative closeout actions are necessary to ensure the establishment of a self-sustaining ecosystem; and/or meet the requirements of reclamation defined under $\text{§}107.HH$ of the New Mexico Mining Act Rules, Molycorp shall request a modification or revision to the permit. MMD will review the study to determine if a modification or revision of this permit is required by $\text{§}504.B$ and $\text{§}505.B$ of the Rules.

Surface Erosion and Stability

24. Molycorp shall complete the Surface Erosion and Stability study in accordance with the *Surface Erosion and Stability Analysis, Questa Tailings Facility, New Mexico* (Robertson GeoConsultants Inc., July 2000), and in consultation with NMED and MMD. The results of the study shall be submitted to MMD for approval, within 6 months after permit approval, and shall document how physical stabilization of the Tailings Pond will be achieved as part of site closure. The study shall include a standard approach to identifying excessive erosion.
25. If the results of the Surface Erosion and Stability study indicate that reshaping of the dams and dikes is necessary to address erosion and stability issues at closeout, Molycorp shall revise the surface shaping plan described in Section 4, item 2 of this permit. The surface shaping plan shall be submitted to MMD as a modification or revision. If the results of the Surface Erosion and Stability study indicate that other additional or alternative closeout actions are necessary to ensure the establishment of a self-sustaining ecosystem, and/or meet the requirements of reclamation defined under $\text{§}107.HH$ of the New Mexico Mining Act Rules, Molycorp shall request a modification or revision to the permit. MMD will review the study to determine if a modification or revision of this permit is required by $\text{§}504.B$ and $\text{§}505.B$ of the Rules.

Borrow Materials

26. Molycorp shall complete the Borrow Materials Investigation in accordance with the *Borrow Materials Investigation – Tailings* (Robertson GeoConsultants Inc., July 31, 2000), and in consultation with NMED and MMD. Molycorp shall, at a minimum, measure and evaluate the following parameters: pH, electrical conductivity, sodium adsorption ratio, organic matter content, rock fragment content, texture, macro nutrient content, available water holding capacity, and plant available iron, zinc, manganese,

calcium, magnesium, copper and molybdenum. The parameters shall be measured and evaluated for borrow and tailings materials. The investigation results shall be submitted to MMD for approval within 6 months after permit approval, and shall document how the materials can be used to support plant growth and create a self-sustaining ecosystem.

27. Molycorp shall incorporate into the Closeout Plan a plan for reclamation and stabilization of borrow areas. The plan shall be submitted to MMD for approval by January 2002. The plan shall identify the location and extent of each borrow area, and describe the reclamation procedures that will be used to stabilize the areas.
28. Molycorp shall identify borrow areas within the permit boundary sufficient to cover areas disturbed by tailings to the depth required by this permit. Identification of the borrow areas will be based on the findings of the Borrow Materials Study discussed under condition 26.

Wildlife

29. Molycorp shall conduct a Wildlife Impact Study to investigate the toxicity and bioaccumulation potential of molybdenum and other metals to plants and animals (small and large), which come into contact with the tailings or consume vegetation growing on the covered tailings. At a minimum, this study shall include an analysis of current metal concentrations in tailings and proposed borrow materials; an analysis of metal concentrations in plants currently growing on reclaimed tailings; and an analysis of metal concentrations in local soils, and plants found off site. The investigation approach shall be submitted for MMD approval by June 15, 2001. The investigation results shall be submitted for MMD approval by June 15, 2002.
30. Molycorp shall evaluate wildlife use of the Tailings Impoundments after reclamation has commenced. This evaluation shall be conducted to demonstrate use of the tailings by wildlife, but presence of wildlife will not be used as criteria for calculation or release of financial assurance. Molycorp shall evaluate wildlife use on-site and off-site quarterly for a six-year period. This evaluation shall, at a minimum, be conducted to include pellet counts, rodent surveys and bird surveys.
31. Six years after revegetation has been completed, Molycorp shall conduct surveys of wildlife quarterly for a period of six years. These surveys shall be conducted to identify seasonal use of the Tailings by key functional groups. The criteria for wildlife use of the established habitat shall be the presence of representatives of the key functional groups during the six years of use. Molycorp shall investigate the lack of presence of any key functional group after two years by conducting equivalent surveys of adjacent areas having similar habitats. These surveys shall be designed to determine if the lack of presence on site was the result of factors unrelated to the site or otherwise beyond the

control of Molycorp and, if so, Molycorp shall not be required to meet the above criteria for that particular functional group.

32. The proposal for evaluating wildlife use for the six-year period shall be submitted for MMD approval by June 15, 2001. The proposal shall define terms and provide the methodologies to be used for monitoring of wildlife after reclamation has commenced. The proposal shall, at a minimum, define the key functional groups to be used for this evaluation, define the term presence as it relates to wildlife use, identify wildlife species to be evaluated within the key functional groups and their habitat requirements, include sampling and survey methods to be used, establish frequency of monitoring, identify time of year for data collection and observations, and identify references areas to be used for the evaluation. Molycorp shall consult with the New Mexico Game and Fish Dept. and solicit input from other interested participants, regarding the development of the proposal.
33. If the results of the Wildlife Impact and Evaluation of Wildlife studies, addressed in conditions 29 and 30, indicate that additional or alternative closeout actions are necessary to ensure the establishment of a self-sustaining ecosystem, as defined under 107.LL of the NM Mining Act Rules; and/or meet the requirements of reclamation defined under 107.HH of the New Mexico Mining Act Rules, Molycorp shall request a modification or revision to the permit. MMD will review the study to determine if a modification or revision of this permit is required by §504.B and §505.B of the Rules.

Cover

34. Molycorp shall conduct the storage cover study in accordance with the *Work Plan for Storage Cover and Test Plot Study, Questa Tailings Facility New Mexico* (Robertson GeoConsultants Inc., Jan. 31, 2000) and in consultation with NMED and MMD. Molycorp shall provide MMD with updated information concerning the results of the study.
35. If the results of the storage cover study indicate that additional or alternative closeout actions are necessary to ensure the establishment of a self-sustaining ecosystem; and/or meet the requirements of reclamation defined under 107.HH of the New Mexico Mining Act Rules, Molycorp shall request a modification or revision to the permit. MMD will review the study to determine if a modification or revision of this permit is by §504.B and §505.B of the Rules.

Water Quality

36. Molycorp shall submit to MMD any submittals approved by NMED on ground water modeling, geochemical characterization and modeling, and cover infiltration. Molycorp shall submit to MMD for approval any studies required by NMED that are necessary to

meet NMMA requirements such as cover design studies, revegetation studies, stabilization and erosion investigations and any other studies necessary to demonstrate a self-sustaining ecosystem.

37. If any of these submittals indicate that additional or alternative closeout actions are necessary to ensure the establishment of a self-sustaining ecosystem; and/or meet the requirements of reclamation defined under §107.HH of the New Mexico Mining Act Rules, Molycorp shall submit to MMD a request to modify or revise the permit. MMD will review the study to determine if a modification or revision of this permit is required by §504.B and §505.B of the Rules.

Comprehensive Cover Performance Evaluation

38. Molycorp shall submit a work plan for a comprehensive cover performance evaluation within 90 days of the effective date of this permit revision approval, for MMD approval. The purpose of the comprehensive cover performance evaluation is to reevaluate the thickness of the alluvial cover proposed to be placed on the Tailing Impoundments for site closure. The comprehensive cover performance evaluation shall be submitted within three years of the effective date of this permit revision approval, and thereafter updated consistent with NMED's requirements for DP-933. The evaluation shall include at a minimum an evaluation of the cover and its ability to achieve a self-sustaining ecosystem and stabilization of the tailings surfaces. The cover performance evaluation shall also include an evaluation of performance, durability and wildlife suitability for the pinyon-juniper woodland, mixed tree and shrub community, sagebrush community, and grass-forb community. The evaluation shall incorporate the results of the studies defined in Conditions 18 through 36. The evaluation shall also include a prediction of post-closure impacts of tailings seepage to ground water quality based on a calibrated soil atmosphere model, calibrated ground water flow model(s), and geochemical modeling.
39. Molycorp shall solicit input from interested participants on the cover performance evaluation work plan and all supporting studies defined in Conditions 18 through 36. Molycorp shall provide funding for an independent third party review selected by NMED and MMD for the cover performance evaluation.
40. Based on the results of the comprehensive cover performance evaluation and each update of the evaluation, Molycorp will reevaluate the cover design required in Condition 9 and modify or revise the cover design if it is demonstrated that a different cover design will meet the requirement to achieve a self-sustaining ecosystem, the wildlife habitat PMLU, and/or meet the requirements of reclamation defined under §107.HH of the New Mexico Mining Act Rules. MMD will review the study to determine if a modification or revision of this permit is required by §504.B and §505.B of the Rules.

SECTION 8. **CONCLUSIONS OF LAW**

1. The Director has jurisdiction over the Permittee and the subject matter of this proceeding.
2. The PAP is complete, accurate and complies with the requirements of the New Mexico Mining Act (the Act) and  502 and  503 of the New Mexico Mining Act Rules.
3. The PRP is complete, accurate and complies with the requirements for closeout plans of the Act and  505,  506 and  507.A of the New Mexico Mining Act Rules.
4. The Permittee, Molycorp, Inc., is permitted to conduct reclamation/closeout operations at the Questa Mine Site in Taos County, New Mexico, upon the condition that the Permittee complies with the requirements of the Order, the Act, the Permit Conditions and requirements imposed by this decision.

CERTIFICATION

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

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

Authorized Representative of the Permittee

Title

Company

Subscribed and sworn to before me this _____ day of _____, 2001

Notary Public

My Commission Expires

_____.

PERMIT REVISION 96-1
TO PERMIT NO. TA001RE
Page 20 of 24

ORDER

NOW THEREFORE, IT IS HEREBY ORDERED that Permit Revision 96-1 of the Questa Mine Permit, incorporating the Tailings Closeout Plan and allowing Molycorp Inc. to conduct closeout and reclamation operations in Taos 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: _____
Douglas M. Bland, Director
Mining and Minerals Division
Energy, Minerals and Natural
Resources Department

DATED: _____

Appendix A

1. 6/29/94 *Molycorp – Mining Operation Site Assessment*
2. 12/30/94 *Application for a Permit for an Existing Mining Operation*
3. 2/23/95 *Revision 1 to Application for a Permit for an Existing Mining Operation*
4. 3/9/95 *Revision 2 to Application for a Permit for an Existing Mining Operation*
5. 11/29/95 *Revision 3 to Application for a Permit for an Existing Mining Operation*
6. 12/22/95 *Revision 4 to Application for a Permit for an Existing Mining Operation*
7. 12/2/96 *Molycorp Response to MMD Request for Information*
8. 1/2/98 *Red River Aquatic Biological Monitoring 1999*, Chadwick Ecological Consultants, Inc.
9. 2/16/98 *Letter from Molycorp Addressing Outstanding Issues*
10. 3/6/98 *Fall 1997 Addendum – Red River Aquatic Biological Assessment*, Chadwick Ecological Consultants, Inc.
11. 10/1/98 *Supplemental Information for Mine Permit No. TA001RE*

Appendix B

1. 12/15/93 *Molycorp Final Closure Plan of Tailings Impoundment Area, DP- 933*
2. 6/27/94 ENSR Consulting and Engineering *Molycorp Mining Operation Site Assessment*
3. 12/29/95 Wagner & Harrington *Revegetation Report for Molycorp, Inc. Questa Mine Site*
4. 4/13/95 South Pass Resources Inc. (SPRI) Report *Discussion of Geology, Hydrology and Water Quality of the Tailings Area*
5. 1/31/96 *Closeout Plan for Molycorp, Inc. Questa Mine*
6. 11/29/95 Dwg. 900-502C & -535P Tails Dump Sump
7. 4/98 *Questa Tailings Facility Revised Closure Plan*
8. 4/98 *Questa Tailings Facility Revised Closure Plan Appendices A-I*
9. 4/30/98 *Cover Design for Questa Tailings Facility Closure Plan - DP- 933*
10. 9/11/98 Attachment 1 updated list of federal and state agency permits related to the Questa Mine
11. 9/15/98 Molycorp, Inc. Renewal Application for NPDES Permit No. NM002306: Comments on Report by Mr. David Abshire
12. 9/30/98 *Evaluation of Tailings Area Seepage Interception System, Souder, Miller and Associates.*
13. 9/30/98 *Comments on Seepage-Related Issues Identified During Review of Molycorp's Tailings Area Groundwater Discharge Plan – DP 933, RGC Report No. 0520004/2.*
14. 12/3/99 Extension of Time for Closeout Plan Approval Request
15. 1/21/00 *Work Plan for Surface Erosion and Stability Analysis for Tailings Dam facility*

PERMIT REVISION 96-1
TO PERMIT NO. TA001RE
Page 23 of 24

16. 1/31/00 *Work Plan for Borrow Materials Investigation - Tailings Facility*
17. 1/31/00 *Work Plan for Comprehensive Water and Load Balance Study – Entire Site*
18. 1/31/00 *Work Plan for Background Characterization Study – Entire Site*
19. 2/29/00 *Work Plan for Wildlife Evaluation for Closure – Tailings Facility*
20. 2/29/00 *Work Plan for Test Plot Program - Tailings Facility*
21. 7/31/00 *Borrow Materials Investigation – Tailings*
22. 7/31/00 *Surface Erosion and Stability Analysis – Tailings*
23. 7/31/00 *Evaluation of Closure Alternatives for Tailings Facility*
24. 7/31/00 *Water and Chemical Load Balance for Questa Tailings Facility*
25. 9/11/00 *Wildlife Evaluation for Tailings Closeout Plan*
26. 12/21/00 Revision of Permit No. TA001RE, Molycorp letter committing to recent permit revision agreements

Exhibit 1

Financial Assurance Summary Molycorp Tailings Facility

DIRECT COSTS	Facility and Structure Removal		\$509,428
	Earthmoving		\$11,268,040
	Revegetation @ percent bonded	170%	\$2,716,797
	Other		\$3,260,887
	Subtotal		\$17,755,152
INDIRECT COSTS	Mobilization and Demobilization (1%-5%)	3%	\$434,828
	Contingencies (2%-10%)	4%	\$710,206
	Engineering Redesign Fee (2%-10%)	4%	\$710,206
	Contractor Profit and Overhead (15%-30%)	15%	\$2,174,140
	Project Management Fee (2%-7%)	3%	\$532,655
	MMD Procurement Cost (2%-10%)	4%	\$710,206
	Indirect Percentage Sum =	33%	
TOTAL BOND AMOUNT			\$23,027,393

This financial assurance covers closeout activities which fall under the following jurisdictional categories:

- 1.) The exclusive jurisdiction of the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) pursuant to the New Mexico Mining Act;
- 2.) The exclusive jurisdiction of the New Mexico Environment Department (NMED) pursuant to the New Mexico Water Quality Act;
- 3.) The joint jurisdiction of EMNRD and NMED.