STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

In the Matter of:	)	
PROPOSED AMENDMENT TO 20.6.2 NMAC (Copper Rule)	)	**No. WQCC 12-01(R)**

EXHIBIT SCOTT – D-38

April 30, 1996

CLOSEOUT PLAN GUIDELINES

FOR EXISTING MINES

Mining Act Reclamation Bureau
Mining and Minerals Division
New Mexico Energy, Minerals and
Natural Resources Department
2040 S. Pacheco St.
Santa Fe, New Mexico 87505
505/827-5970

8. **Closeout Permitting Requirements** - A list of all federal and state permits required for completion of the closeout plan and the dates they were or are anticipated to be issued.

9. **Post Closeout map(s)** - A topographic map of the anticipated surface configuration upon completion of the Closeout plan.

10. **Cost Estimate for Closeout** - Provide a cost estimate for the proposed closeout work to be performed.

11. **Appendices** - Include here any additional information necessary to support the closeout activities discussed above.

COMPONENTS OF A CLOSEOUT PLAN

PAST AND CURRENT MINING

Mining methods may cause specific safety or contamination problems. Each mine is unique. Therefore, past and current mining methods used at the site may be identified and described. The following information, if applicable, should be part of a proposed closeout plan for all or a portion of the mine. This list is not all inclusive.

1. Impacted areas within the permit area resulting from past and current mining practices should be identified and evaluated for potential impact on the overall closeout plan . Pre-Act mining disturbances that fall within the permit area should be identified or excluded from the permit area .

2. The past and current extent of water quality problems should be determined. These issues can be addressed by following the guidances provided by the New Mexico Environment Department found in Appendices #1 and #2.

3. Improvements resulting from mining previously disposed or abandoned mining wastes, reprocessing waste piles, backfilling open pits or underground mines and regrading waste dumps may be identified.

4. Watershed inventories may be studied. The pre-mining watershed configuration may be compared to the post-mining watershed configuration. Affects to on and off site water users, surface drainage patterns and ground water discharge and recharge areas may be discussed. It is not required that disturbed watersheds be restored to pre-mining conditions. However, they should be reclaimed to a productive and stable condition.

5. VERTICAL OPENINGS: Vertical openings may be identified and closures

should be designed to provide for public safety and prevent environmental degradation.

6. PORTALS: Portals are entries, drifts, declines, inclines and adits that are horizontal or sloped mine entries. Such entries should be identified and portal closures should be designed to provide for public safety and prevent environmental degradation.

7. UNSTABLE PILES OR EMBANKMENTS: Unstable piles or embankments may be spoil banks from surface mining, refuse banks from underground mining and/or mineral processing and natural slopes where a mining activity has directly caused instability. These types of piles or embankments can pose a danger to human safety and environmental stability. Unstable piles or embankments should be stabilized or removed.

8. UNSTABLE IMPOUNDMENTS: Unstable impoundments are impoundments which pose the threat of failure. They typically involve the possibility of the retention of a large quantity of water slurry, or tailings associated with mining or processing activities. These types of impoundments can pose a danger to human safety and environmental health. There are several different types of impoundments: (1) Surface impoundments that were purposely constructed include tailings ponds, slurry ponds, and sedimentation ponds; (2) Inadvertently formed surface impoundments are those that evolved over time through excavation below the water table, erosion, changing drainage patterns, or other natural consequences. Such impoundments include abandoned strip pits and impoundments that formed as a result of subsidence or the sliding of unstable refuse or waste into a natural drainage; (3) Underground impoundments are formed as a result of past underground mining. Unstable impoundments, should be stabilized or removed.

9. SLOPE FAILURES: Slope failures may result when unconsolodiated material is piled beyond its maximum angle of repose, or when consolidated material develops continuous fracture planes within its structure and the inclination of the fractured material is towards an exposed out slope. Slope failures such as landslides may occur when supporting material is removed from the toe of a slope, the material becomes saturated with water, or an earthquake occurs. Past surface mining practices frequently cast spoil on out slopes beyond the angle of repose. Placement of spoil in natural drainages is another cause of slope failure. Slope failure may also result from changing the spoil-material geometry. For example, removal of the toe support by erosion or excavation decreases the resisting forces and may cause instability. Allowing water saturation of unstable material can result in slope failure. Water should be diverted away from areas susceptible to instability. Areas prone to slope failure

should be identified and the potential for movement mitigated.

10. SUBSIDENCE: Subsidence results from the collapse of overlying strata into underground mining workings and may manifest itself in the form of surface depressions and cracks. Subsidence can also occur from poor compaction or uncontrolled settling of fill materials, or surface drainage into subterranean mine workings. Subsidence can cause erosion, or damage structures, utilities, streams and land surface. Areas which have subsided, or may subside should be identified and addressed in the closeout plan.

11. HAZARDOUS MINE EQUIPMENT OR FACILITIES: A variety of buildings, structures, equipment and machinery are associated with underground and surface mining and processing. Most sites will pose a safety problem from structures or machinery left behind. Facility cleanup should be addressed. If such cleanup is to be addressed under another regulatory authority, the authority should be identified in the closeout plan.

12. INDUSTRIAL OR RESIDENTIAL WASTE: Mine lands may contain waste disposal sites. Solvents, reagents, hydrocarbons, or other types of chemicals may have been spilled at the mine site or left behind in barrels or other containers . Waste cleanup should be addressed. These various types of wastes should be identified and disposed of properly via the proper regulatory authority. The authority should be identified in the closeout plan.

13. HIGHWALLS: Highwalls are the sheer walls at the boundaries of mines and the dominant physical features of many abandoned surface mining operations. Highwalls generally range in height from 20 to 200 feet, or greater, depending on topography, mining methods, and the overburden ratio economically feasible at the time of mining. Highwalls should be identified and their stability should be evaluated and mitigated if necessary. For highwalls not compatible with the postmine land use, a waiver must be obtained if the highwall is to remain.

14. RECURRENT FLOODING OR GROUND SATURATION: Areas prone to ground saturation and/or flooding during storm events where there may be a potential for flood damage, slope failure or subsidence, should be identified and addressed.

15. POLLUTED WATER: Areas of current or potential water contamination should be identified and a remediation strategy designed. The remediation strategy should adhere to the guidelines provided by the Environment Dept. in Appendices #1 and #2.

CULTURAL RESOURCES