3.3 Reclamation and Closure

3.3.1 General

As a component of the overall environmental stewardship policy of Rosemont Copper associated with the Rosemont Project, a reclamation plan has been designed to exceed regulatory requirements by creating a unique concurrent reclamation and closure approach. This approach provides a template for development of on-going mitigation measures that will be developed during the design and operations phases of the Project.

Major elements of the reclamation and closure plan are dictated by the regulatory requirements contained in the Arizona Mined Land Reclamation Act, the FS regulations, and the APP Program. Although other regulatory requirements may contribute mitigation elements, these three regulatory programs form the framework for the reclamation plan.

Applicable design criteria for the overall approach to mining, processing, and the sequencing of material placement within the final landform for optimum reclamation and closure conditions are addressed. The Plan contains provisions for protection of the environment during the operations phase using best management practices. These practices are primarily guided by the protection of surface water and groundwater resources. Sediment transport is addressed through design of stormwater control features and dust control measures.

The proposed reclamation/closure mitigation elements for the Rosemont Project include employment of concurrent reclamation of the facilities. Therefore, reclamation obligations will be incrementally reduced as the operation progresses.

3.3.2 Closure Concepts

The reclamation plan proposed for the Rosemont site has several key components, referred to as initiatives. These initiatives provide the physical and philosophical foundation for the reclamation plan and will remain constant throughout the operational life of the facility. These initiatives include: design of the facilities with closure goals in mind; concurrent reclamation practices; constraining disturbances to a single drainage; minimizing downstream hydrologic disturbances; preparing a comprehensive drainage plan; using modern technology to minimize the generation of impacted water; managing operations to minimize environmental impacts; reclaiming the facilities to blend with surrounding topography; constructing an outer facility shell to reduce visual impacts of the mining operations; salvaging soil resources; performing selective vegetation removal; revegetating reclaimed surfaces; and, preparing an estimated closure cost.

One of the major initiatives of the Plan will be to facilitate concurrent reclamation of the outer shell of the waste rock and tailings storage areas and to provide a perimeter buttress to mitigate the visual impact of the Project. Selection of seedbed preparation, species, and site revegetation will be based on work

currently performed for the Project under a research grant to the University of Arizona's School of Natural Resources.

3.3.3 Post-Closure Land Uses

Post-mining reclamation objectives for the Rosemont Property are expected to be consistent with typical rural values embodied in the use concepts associated with Western open space. This philosophy is in alignment with current patterns of use, such as dispersed recreation, wildlife habitat, and ranching.

Current and probable post-mine recreational activities include horseback riding, hunting, prospecting, all-terrain vehicle and motorcycle riding, four-wheeling, hiking and birdwatching. Because Rosemont Copper is planning concurrent reclamation for the facility, it is anticipated that disruption to wildlife habitat and use will be minimal. It is expected that by Year 10 significant portions of the perimeter buttresses and waste rock facilities will be almost completely reclaimed.

The Rosemont Property is part of an existing ranching facility with over 15,000 ac of grazing lease. The post-mining use for a portion of this facility will include on-going ranching, and it is anticipated that cattle will be used throughout the life of the mine to assist in providing nutrients to the soil as well as long-term post-mining use of the area.

3.3.4 Concurrent Reclamation Design

A unique concurrent reclamation plan will be initiated at the Rosemont facility from the initial soil stripping through conclusion of operations. Perimeter buttresses will be placed around the waste rock and dry tailings storage areas. Placement of the perimeter buttresses will allow for screening of the project facilities as well as facilitating early reclamation of these areas as they are constructed. Leaching activities will also take place early in the project life, allowing for early reclamation and closure of this portion of the facility. Finally, measures can also be taken to accelerate vegetation on the upper benches of the mine pit. The illustrations showing staged reclamation if the operation should cease prior to the currently planned mine life are included in the Reclamation Plan. This information was also used to develop interim reclamation cost estimates.

Potentially acid-generating materials will not be used for construction of the perimeter buttresses, required drains, or channel grading fills. These materials will be placed in the interior of the waste rock storage areas and isolated. In the tailings areas, the buttresses will be placed so that approximately 50 ft of waste rock will extend past the current tailings placement elevation. As the tailings are deposited behind the buttress and approach the buttress elevation, another lift of buttress material will be placed. Once the buttress is raised to a new level, the lower buttress can be contoured, capped, and reseeded as required.

The perimeter buttress will be wholly located within the Barrel Canyon drainage. The ultimate configuration of the waste rock storage area and capped tailings area will be a stable ridge with overall

minimum slopes of 3H:1V to a total maximum height of 600 ft. As portions of the dry stack tailings facility reach ultimate configuration, the top of the facility can be capped and seeded.

It is anticipated that leach materials will be available early in the process, during pre-production stripping activities. Most of the ore mined for the leaching operations will be placed on the pad by Year 6. This will allow closure and reclamation of this facility early in the mine life. It is anticipated that by Year 10, leaching and drain-down of the leach pad will be completed. At that time, the ponds will be decommissioned and residual leach solutions will have evaporated or been processed. Once the ponds are decommissioned and have been deemed closed by ADEQ, the facility will be completely covered by run-of-mine rock. The surface above the heap leach facilities will be graded to drain.

During operations, Rosemont plans to encourage plant growth in the upper reaches of the pit by seeding the upper benches before mining restricts access. It is anticipated that reseeding these areas will provide a visual break on the upper benches. At closure, the open pit will be bermed and/or fenced to restrict access. Following closure, the central drain will continue to act as a conduit for stormwater in the upstream Barrel Canyon drainage to the lower Barrel drainage. The drain will also take stormwater flows from the top surface of the reclaimed perimeter butrress.

Operating facilities at the Rosemont site will be demolished at closure. All areas will be investigated for contaminants and any contaminated soils, reagents, or fuels will be disposed offsite. Current plans call for the removal of all materials that are above grade followed by recontouring for drainage. Sub-grade materials such as foundations will be buried in place, capped and the areas graded for drainage.

3.3.5 Operating Considerations

Operations and maintenance necessary to ensure the integrity of the Project facility and systems, whose failure could potentially endanger human health and the environment, are limited. The layout of the operating facilities is internal to the waste rock storage area and tailings facility. This eliminates opportunities for human health to become endangered due to process excursions. With this layout, simple facility security such as fencing can restrict access and ensure the human health is protected.

The facilities are designed to isolate hazardous substances either in tanks, ponds, or operational structures to keep them from being contaminated. The layout and design of the facilities also helps to protect the environment. Redundant sources of power are part of the overall design. Process ponds associated with the leach facility are sized so that there is sufficient freeboard to contain operating volumes and storm water inflows.

3.4 Viewshed Protection Plan

A viewshed analysis has been completed for the Rosemont Project using the top of the coarse ore stockpile building and the high point of the lined heap leach pad (Tetra Tech 2007h). Three project phases were analyzed for the Rosemont plant site (Year 0, 5, and 15) utilizing an elevation of 5,200 ft, which represents the high point of the proposed plant. The highest point of the lined heap leach pad is 5,280 ft. Visual results of the viewshed analysis are provided in Figures 3-2 through 3-6.

As the life of the mine progresses, the waste rock storage areas and the perimeter buttresses become larger, shielding the plant from view. In Year 0, the plant can be seen from various locations to the east and southeast along a four mi stretch of SR 83. Views of the plant from the south and Sonoita at this time are minimal to nonexistent. By Year 5, the screening berm will limit the visibility of the plant from the 4-mi stretch of SR 83, though not completely, and there is virtually no view of the plant from the south. Midway through the mine operation, the plant is completely shielded from viewers along SR 83. The highest points of the pit wall are visible from a larger area, although the reclaimed slopes and crest of the perimeter buttresses will dominate the foreground and minimize the highwall views. A line of sight analysis was performed from the mile post 44 turnout along SR 83 to determine what portion of the pit wall would be visible from that location. This analysis showed that only a small portion of the final pit configuration (approximately 10.7 ac) will be visible.