



MINE AND SMELTER RECLAMATION

EMC² staff has prepared and implemented reclamation/closure designs for a variety of mine and smelter sites located throughout the United States. Our services range from preparing reclamation plans, specifications, and design drawings through providing turnkey design/construction management reclamation services. As demonstrated in the following representative project descriptions, we strive to realize cost and schedule savings for our clients through value engineering, aggressive agency and vendor negotiations, and strict project/contract management controls.



Pre-Reclamation Site Conditions



Post-Reclamation Site Conditions

Brewer Gold Mine Site Closure, South Carolina - EMC² staff developed a mine closure design to backfill and cap three open pits and close six heap leach piles, a waste rock dump and several process and sediment ponds at this former gold mine. Design work included: geochemical, geotechnical, slope stability, infiltration, groundwater, surface water and revegetation evaluations for the pit backfill design. Also included was the design of a 2,000 gpm magnesium oxide pit water treatment system and agency negotiations to obtain design approval for the first mine closed in the state. Construction work included: preparing construction plans, technical specifications and bid packages; developing a closure approach to meet client cash flow goals whereby the client functioned as general contractor to facilitate use of mine staff and small local subcontractors; developing a hard dollar closure cost estimate for cash flow projections; solicitation of contractors; and subsequent management of all construction operations.

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Blackwell Zinc Site Soil Remediation Unit, Oklahoma – EMC² staff developed the final remedial design for a 188-acre former zinc smelter site to support commercial redevelopment under the Brownfields Program. Over 150 residential properties were also remediated. Design work included: evaluations to specify cap material and geotextile types and thicknesses; and hydrologic/hydraulic evaluations to specify surface water drainage erosion control structures. Construction plans/specifications were developed into a bid package and EMC² staff facilitated contractor screening, bid solicitation, and contract award and managed all construction operations.

Pecos Mine Remedial Design, New Mexico - EMC² staff managed preparation of a site-wide remedial design to reduce ARD impacts from several exposed waste rock dumps at this former lead/zinc mine. The RD includes consolidating the waste rock piles, reclaiming a reach of stream impacted by ARD and sediment loading, restoring wetland areas impacted by historic seepage and sedimentation, developing a subsurface flow interception/diversion system, and preparing a site-wide storm water management plan.

Miami Mine Reclamation Planning, Arizona - EMC² staff developed a mine reclamation plan for this active copper facility by working with the mine's 20-year mine operations plan from which on-going and end-term reclamation requirements were established. The project required working within state/federal regulatory guidelines to develop a facility-wide demolition and land reclamation cost estimate to establish minimum bonding requirements. Reclamation cost estimates were also developed for two separate mining operations on BLM land in support of BLM's revised bonding requirements.