

Statement of Qualifications – Project Profiles

Project: **Smelter and Mine Facilities Closure Services
Upper Peninsula, Michigan**

TREC personnel prepared a strategic closure plan, cost estimates and environmental liability evaluations for a large mining complex including an underground mine, mill, smelter, power plant, water treatment plant, 5,000-acre tailings pond and mine shafts, adits and portals. The evaluations were used by the parent company of the facility for mothball/closure and potential facility sale/lease opportunities.

The work included an initial site characterization, based on existing information, followed by a phased and iterative evaluation of environmental liabilities and closure planning. Specific activities include performing a human health/ecological risk assessment; collection of field data in areas where additional information was necessary to quantify risk and determine extent of impacts; negotiation of a consent decree with the state for closure; development of multiple conceptual closure designs and associated cost estimates; demolition and salvage evaluations; and negotiating performance standards based on state and federal regulations.



Focused, limited field investigation performed to characterize site conditions, quantify risks and estimate environmental expenditures.

The conceptual design included various options for closure of the tailings ponds including direct revegetation, soil cover and revegetation and breaching the dams for long-term stability. Infiltration modeling was performed to determine the type and amount of appropriate soil cover material. Demolition of the smelter and associated structures was also evaluated to determine salvage value of facility components and volume of demolition debris for disposal. Several old landfills used by the facility were also investigated and evaluated to identify appropriate remedial measures.

SERVICES PROVIDED:

- Site Investigation/ Characterization
- Reclamation Alternative Evaluation
- Closure Cost Estimates
- Human Health/ Ecological Risk Assessment
- Conceptual Design
- Compilation of Existing Site Data into GIS Database