



Project Overview

TYRONE MINES

Location: Tyrone, New Mexico
Completed: November 2005

CONCRETE ELECTROLYTIC CELLS

The Tyrone Mines are an open-pit copper mining operation owned by the Phelps Dodge Mining Company. Severe corrosion required retrofitting of an existing concrete cell with paraliner and buffer sheets.

PROBLEM

Severe corrosion of the tanks had caused the existing buffer sheets and paraliners to crack and leak. Acidic solution was able to contact the concrete walls eroding the concrete and corroding the internal rebar significantly reducing the walls strength. Also solution saturated cedar board flooring allowing it to warp. Solution also reached tankhouse floor causing damage and safety issues.

SOLUTION

QuakeWrap developed a unique resin and fiber system to line the concrete cell walls, which increased the wall strength while containing the acidic solution within the fiberglass system. A polymer concrete floor replaced the existing wood panel floor. System has eliminated the use of paraliners and the maintenance work associated with this older system.



Technical Highlights

- Tanks containing 15% sulfuric acid @ 140°F
- Damaged tanks were weakened and solutions leaked
- Patent-Pending system was installed with a 5-year warranty
- Quick repair with little downtime
- Tanks are stronger than original "as-built" condition
- Long-lasting repair reduced maintenance costs



Credits

General Contractor: B&W and TMI, Morenci, AZ

"The FRP Retrofit Experts"