

INNOVATION

Recovery and processing of pigments from abandoned mine lands.

ACCOMPLISHMENTS

- ▶ Developed and patented process for producing value-added products from polluted mine drainage.
- ▶ Iron Oxide Recovery, Inc. formed to market EnvironOxide™ environmentally friendly pigments.
- ▶ GreenSpec Magazine named EnvironOxide™ pigments among Top 10 New Green Products of 2003.



IRON OXIDE RECOVERED FROM ABANDONED MINE LANDS

COMMERCIALIZATION

- ▶ Since 2000, approximately 500 tons of material have been recovered from abandoned mine sites, processed, and sold to domestic pigment manufacturer.
- ▶ Total sales have reached \$450,000 over the past four years.
- ▶ \$1.2 million contract signed to construct iron oxide producing system at abandoned mine site in Pennsylvania .

IMPACTS

- ▶ Oxide recovery technology could reduce iron pollution from abandoned Pennsylvania coal mines, currently estimated at 5,000 tons per year, and support \$5 million/yr pigment industry.
- ▶ Economic benefits of extracted pigments help offset the costs associated with the long-term maintenance of abandoned mine lands.
- ▶ EnvironOxide™ pigments color a wide range of products in diverse applications, including paints and coatings, cement-based products, plastics, paper, and mulch.

SBIR COMPETITIVELY AWARDS SMALL BUSINESS GRANTS FOR INNOVATIVE RESEARCH THAT HAS THE POTENTIAL OF SOLVING IMPORTANT AGRICULTURE AND RURAL DEVELOPMENT PROBLEMS.

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