# **Phyto-Engineering of Abandoned Acid Mine Drainage.** (A02-lee221808-Oral)

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## Abstract:

Phyto-Engineering was applied to a treatment system for abandoned acid mine drainage at Vintondale, PA. Six lime treatment ponds were constructed in series with seven acres of wetland as a final polishing step in the treatment. Recycled Soil Manufacturing Technology (RSMT) was applied to the constructed wetland areas. Dredged material from Donora, PA, waste paper fiber from Pittsburgh, PA and biosolids from Bion Technologies near Amherst, NY were blended into a wetland substrate for one acre of the wetlands. Other RSMT blends for the remainder six acres included bony residual material plus sawdust and cow manure, or bony residual material plus wastepaper fiber, bionsoil, and mushroom compost. The wetlands were designed to remove suspended solids resulting from the neutralization of the acid mine drainage. The project was a cooperative effort among AMD ART, Inc., a non-profit organization; RSMT; USACE Pittsburgh District and ERDC-WES; Bion Technologies, Inc. Amherst, NY; AgRecycle, Inc. Pittsburgh, PA and Dredged Docks, Inc. Donora, PA.

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