

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES

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QUAKAKE TUNNEL DEMONSTRATION PROJECT

LIMESTONE NEUTRALIZATION OF ACID MINE DRAINAGE

CARBON COUNTY PA.,

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**DEPARTMENT OF ENVIRONMENTAL RESOURCES
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PREFACE

Discharges of Acid Mine Drainage (AMD) from abandoned strip and deep mines are major sources of pollution of Commonwealth waters. The total acid load entering Pennsylvania's streams has been estimated to be in excess of 2500 tons per day. The adverse economic and environmental impacts of this pollution load have been documented in prior reports.

The Pennsylvania Department of Environmental Resources, under the "Operation Scarlift" program, created as part of the "Land and Water Conservation Act" of 1968, is actively engaged in the abatement of AMD discharges. The program consists of determining the location and magnitude of AMD discharges, the economic feasibility of alternative abatement methods, design of selected abatement facilities and implementation of the program through construction and operation. Emphasis is properly placed on implementing permanent abatement measures which eliminate the sources of AMD. However, 100% source abatement is not an achievable short term goal and therefore the need for low cost treatment methods exists.

Neutralization of AMD using crushed limestone as a reagent, has several obvious advantages: low reagent cost, the wide spread availability of limestone, and no potential of over treating the receiving stream. This report examines several prototype crushed limestone processes constructed at the Quakake Tunnel Demonstration Project.

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