

# I INTRODUCTION

## SL 103-4

# SOUTHERN LATROBE SYNCLINE MINE DRAINAGE POLLUTION ABATEMENT PROJECT FINAL REPORT

## I. INTRODUCTION

In keeping with the continuing efforts to upgrade the water quality of the Commonwealth's streams the Pennsylvania Department of Environmental Resources entered into Engineering Agreement SL 103-4 with L. Robert Kimball Consulting Engineers on September 9, 1973. The purpose of this engineering agreement was to perform a site evaluation and develop an abatement plan for four (4) Latrobe Syncline mine pool discharge areas listed below in Westmoreland County and referred to in the report "Youghiogheny River Basin Mine Drainage Pollution Abatement Project SL-103", (See Volume II, Plate 1).

1. Brinkerton Overflow Area in Mount Pleasant Township: Source Nos. 2202, 2203, 2204, 2205, 2222 (M08, M09, M10, M11, M12)
2. Wilson Run Area in Mount Pleasant Township; Source Nos. 2401, 2402, 2407, 2408 (M06, M07)
3. Buffalo Run Area in East Huntington Township; Source No. 2508 (M05)
4. Stauffer Run Area in East Huntington Township; Source Nos. 3106 (3 air seals), 3108, 3109, 3110 (M63, M62)

A monitoring program was implemented with monthly flow measurements and chemical analyses of samples at each of the discharges. Three gauging stations were also established on Sewickley Creek.

In conjunction with the monitoring program a review of existing information on mine drainage pollution sources, background surface water quality, mining history and geologic information was conducted.

Preliminary data from the stream monitoring program indicated some correlation between discharge flows and surface water (precipitation). This correlation led to an expansion of the project to include (1) an outcrop inventory for the Southern Latrobe Syncline Basin, and (2) aerial photographs of the outcrop area. This inventory was to determine if direct links occurred between surface water and the Syncline Mine pool.

During the outcrop inventory twelve (12) additional AMD discharges were found (see volume II, Plates 1&2) and the contract was amended to include a six month monitoring period consisting of flow measurement and chemical sampling. These additional discharge locations are listed below:

1. Shupe Run Area in Mount Pleasant Township, Discharge No. M100
2. Unnamed tributary to Stauffer Run in East Huntington Township, Discharge Nos. M101, M102, M103
3. Buffalo Run Area in East Huntington Township, Discharge No. M104
4. Brinker Run Area in Unity Township, Discharge Nos. M105, M106, M107, M108, M109
5. Unnamed tributary to Sewickley Creek in Unity Township, Discharge Nos. M110, M111

The information collected from all phases of this study, the development of recommended plans for abatement works and order of magnitude cost estimates are presented in this report.

Bituminous coal mining in the Southern Latrobe Syncline Basin began in the 1800's, a large percentage of the coal used in making coke. Most of the mining was done in underground mines now long abandoned and flooded. These mines are the sources of acid mine pollution in the investigated area. A physical inspection of the conditions

within these long abandoned mines is economically impractical, and must be inferred from the surviving mine maps, general mining practices of the peak production years, old miners' reminiscences and the Department of Mines Inspector's reports regarding mine conditions, the general geologic description of roof conditions, results of the outcrop inventory, geologic information, and general topographic conditions.

The report is organized into two volumes: Volume I (this volume) includes an outline of the monitoring program, data gathered during the monitoring, results of the outcrop inventory, logs of the test borings, a recommended abatement plan, including estimated costs and alternatives. Volume II contains area locations on the outcrop, geologic sections, mine maps with topographic overlays for the area (scale 1"= 400'), proposed locations for the settling ponds and, an inventory of deep mines within the area.