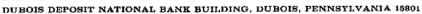
## LEE - SIMPSON ASSOCIATES, INC.

ENGINEERS AND PLANNERS





The Honorable Maurice K. Goddard, Secretary Department of Environmental Resources 518 South Office Building Harrisburg, Pennsylvania 17102

Subject:

Acid Drainage Pollution Project - Toby Creek

Contract No. SL 132

Dear Sir:

This report deals with the acid drainage problems of a portion of the Toby Creek Drainage Basin in Elk County, Pennsylvania.

Investigations have revealed that the acid drainage originating within the area covered by this project can be substantially reduced, thus reducing the acid load reaching Toby Creek and the lower reaches of the Clarion River.

The abatement of acid drainage in the basin should provide long term economic and environmental benefits to the region. We have concluded that the major causative factor in the acid drainage problem is the interaction of recent surface mining with old abandoned drift mines. It should be possible to prevent future repetitions of this situation without crippling the coal industry which is so vital to this region and to the Commonwealth.

Thank you for the opportunity to work on this project.

Very truly yours,

LEE-SIMPSON ASSOCIATES, INC.

Edward M. Lee, President



## TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1 - 1
CONCLUSIONS	2-1 to 2-21
RECOMMENDATIONS	3-1 to 3-8
COST ANALYSIS	4-1 to 4-3
APPENDIX A	A1 to A10
APPENDIX B - SAMPLING DATA	B1 to B 27
APPENDIX C - STRATIGRAPHIC PROFILE	C1 to C4
APPENDIX D - DETAILED TOPOGRAPHY	D1 to D2
APPENDIX E - CALCULATIONS	E1 to E5
APPENDIX F - DIAGRAMS	F1 to F6