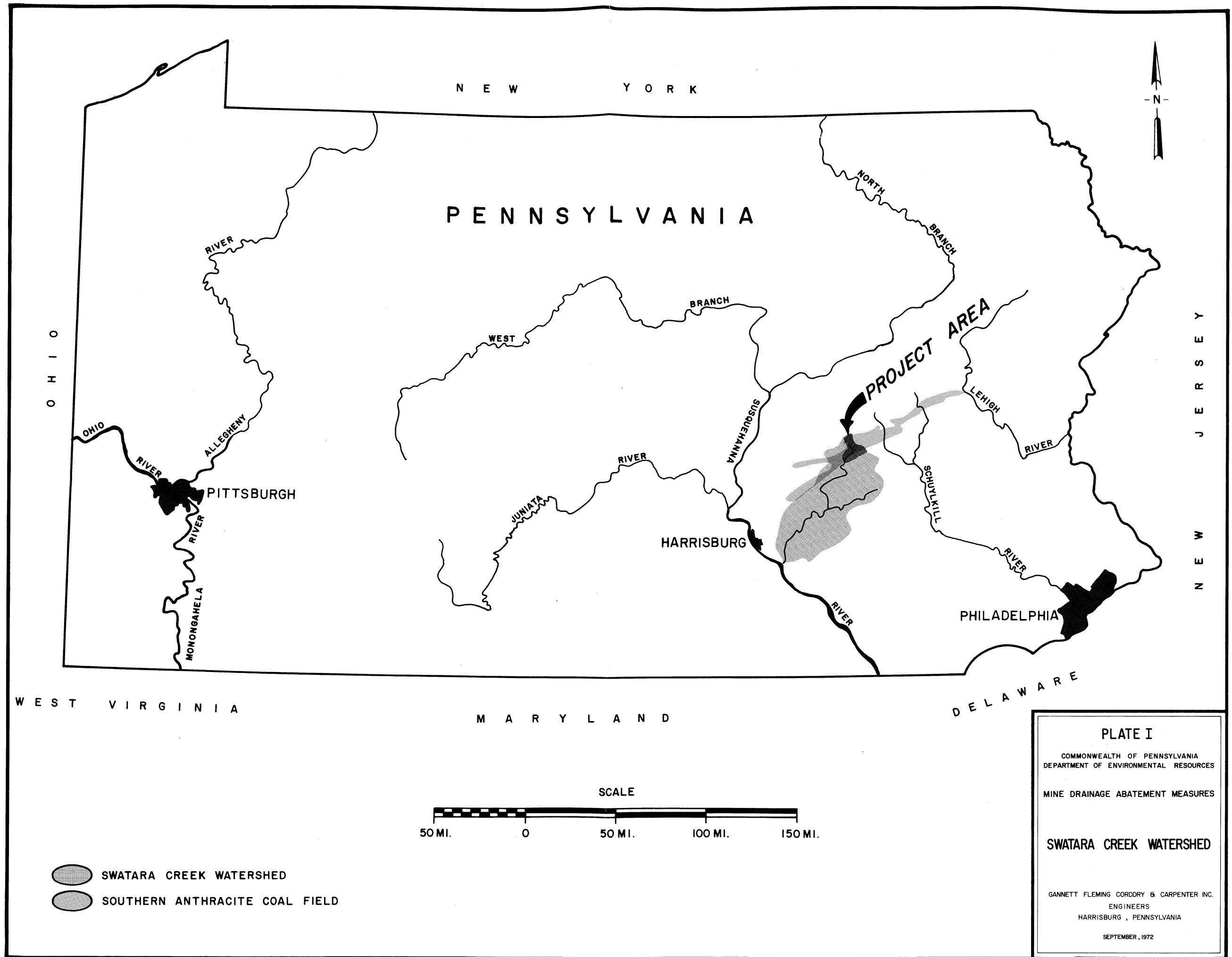


**PLATES I, II,
III, AND IV**



N E W Y O R K

P E N N S Y L V A N I A



O H I O

J E R S E Y

W E S T V I R G I N I A

M A R Y L A N D

D E L A W A R E

-  SWATARA CREEK WATERSHED
-  SOUTHERN ANTHRACITE COAL FIELD

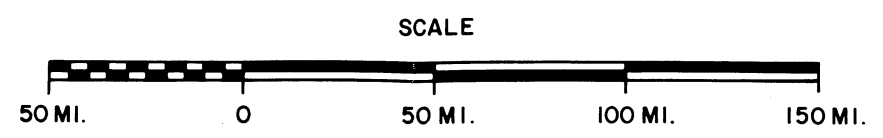


PLATE I

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

MINE DRAINAGE ABATEMENT MEASURES

SWATARA CREEK WATERSHED

GANNETT FLEMING CORDDRY & CARPENTER INC.
ENGINEERS
HARRISBURG, PENNSYLVANIA

SEPTEMBER, 1972

DEPARTMENT OF ENVIRONMENTAL RESOURCES

REVIEW NOTICE

This report, prepared by outside consultants, has been reviewed by the Department of Environmental Resources and approved for publication. The contents indicate the conditions that are existing as determined by the consultant and the consultant's recommendations for correction of the problems. The foregoing does not signify that the contents necessarily reflect the policies, views, or approval of the Department.

LEGEND

- INTERSTATE HIGHWAY
- STATE OR LEGISLATIVE ROAD
- IMPROVED ROAD
- UNIMPROVED ROAD
- BOROUGH BOUNDARY
- TOWNSHIP BOUNDARY
- STATE GAME OR FOREST LAND BOUNDARY
- WATERSHED LIMIT
- PROJECT AREA LIMIT
- UNDISTURBED SURFACE CONTOUR
- STREAM
- STREAM WITH INTERMITTENT FLOW
- STREAM QUALITY SAMPLING STATION
- STREAM QUALITY SAMPLING AND GAGING STATION
- GROUND WATER QUALITY SAMPLING STATION
- MINE DRAINAGE DISCHARGE POINT
- SLOPE OR DRIFT ENTRY
- SHAFT
- ROCK TUNNEL
- BARRIER PILLAR
- EXTENT OF MAJOR DEEP MINE WORKINGS
- BREAKER
- STRIP MINE
- REFUSE AREA
- SUBSIDENCE AREA



SL 126-1

PLATE II
 COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL RESOURCES
 MINE DRAINAGE ABATEMENT MEASURES
**SWATARA CREEK WATERSHED
 MINING OPERATIONS
 AND
 RELATED FEATURES**

SCALE
 1000' 0 1000' 2000' 3000'

GANNETT FLEMING CORDROY & CARPENTER INC.
 ENGINEERS
 HARRISBURG, PENNSYLVANIA
 SEPTEMBER, 1972

LEGEND

- INTERSTATE HIGHWAY
- STATE OR LEGISLATIVE ROAD
- IMPROVED ROAD
- UNIMPROVED ROAD
- BOROUGH BOUNDARY
- TOWNSHIP BOUNDARY
- WATERSHED LIMIT
- PROJECT AREA LIMIT
- STREAM
- STREAM WITH INTERMITTENT FLOW
- STREAM QUALITY SAMPLING STATION
- STREAM QUALITY SAMPLING AND GAGING STATION
- GROUND WATER QUALITY SAMPLING STATION
- MINE DRAINAGE DISCHARGE POINT
- SLOPE OR DRIFT ENTRY
- SHAFT
- ROCK TUNNEL
- BARRIER PILLAR
- BREAKER
- STRIP MINE
- REFUSE AREA
- SUBSIDENCE AREA
- EXTENT OF MAJOR DEEP MINE WORKINGS CONTRIBUTING TO THE FOLLOWING POOL OVERFLOWS
- PINE KNOT-OAK HILL DRAINAGE TUNNEL VIA NEWMEISTER DRIFT
- MIDDLE CREEK VIA STRIP MINE OVERFLOW
- DISCHARGE No. 4 VIA DRIFT ENTRY
- OTTO COLLIERY OVERFLOW
- DISCHARGE No. 11 VIA DRIFT ENTRY
- MIDDLE CREEK COLLIERY OVERFLOW
- DISCHARGE No. 24 VIA BLACKWOOD TUNNEL
- DISCHARGE No. 30 VIA EVERTS TUNNEL
- DISCHARGE No. 40 VIA LOWER LAUX TUNNEL
- SECONDARY SOURCE OF WATER FOR BREAKER



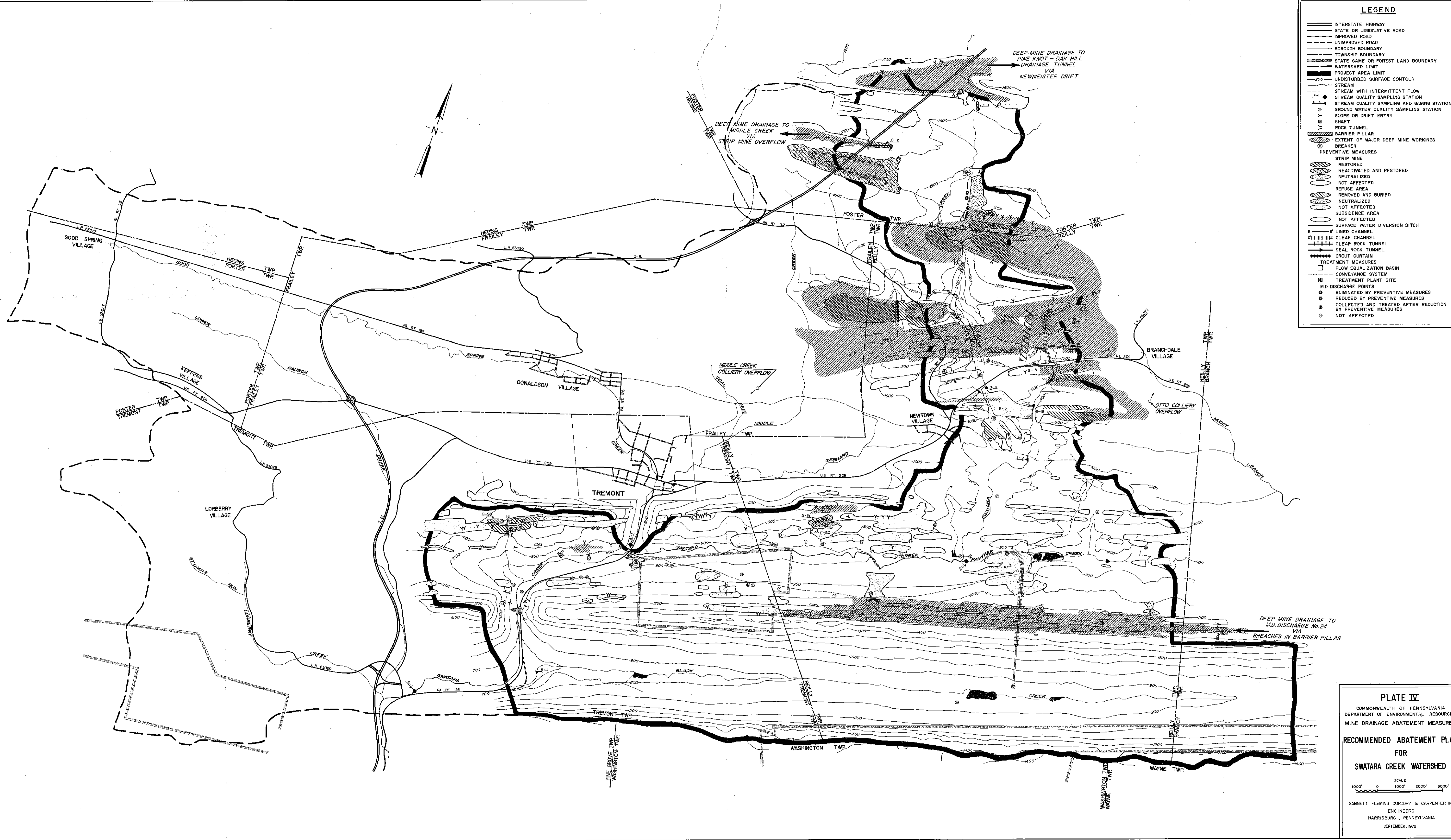
PLATE III

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE ABATEMENT MEASURES

**SWATARA CREEK WATERSHED
EXTENT OF DEEP MINE WORKINGS
CONTRIBUTING TO MAJOR MINE
DRAINAGE DISCHARGES**

SCALE
1000' 0 1000' 2000' 3000'

GANNETT FLEMING CORDRY & CARPENTER INC.
ENGINEERS
HARRISBURG, PENNSYLVANIA
SEPTEMBER, 1972



LEGEND

- INTERSTATE HIGHWAY
- STATE OR LEGISLATIVE ROAD
- IMPROVED ROAD
- UNIMPROVED ROAD
- BOROUGH BOUNDARY
- TOWNSHIP BOUNDARY
- STATE GAME OR FOREST LAND BOUNDARY
- WATERSHED LIMIT
- PROJECT AREA LIMIT
- UNDISTURBED SURFACE CONTOUR
- STREAM
- STREAM WITH INTERMITTENT FLOW
- STREAM QUALITY SAMPLING STATION
- STREAM QUALITY SAMPLING AND GAGING STATION
- GROUND WATER QUALITY SAMPLING STATION
- SLOPE OR DRIFT ENTRY
- SHAFT
- ROCK TUNNEL
- BARRIER PILLAR
- EXTENT OF MAJOR DEEP MINE WORKINGS
- BREAKER
- PREVENTIVE MEASURES
- STRIP MINE
- RESTORED
- REACTIVATED AND RESTORED
- NEUTRALIZED
- NOT AFFECTED
- REFUSE AREA
- REMOVED AND BURIED
- NEUTRALIZED
- NOT AFFECTED
- SUBSIDENCE AREA
- NOT AFFECTED
- SURFACE WATER DIVERSION DITCH
- LINED CHANNEL
- CLEAR CHANNEL
- CLEAR ROCK TUNNEL
- SEAL ROCK TUNNEL
- GROUT CURTAIN
- TREATMENT MEASURES
- FLOW EQUALIZATION BASIN
- CONVEYANCE SYSTEM
- TREATMENT PLANT SITE
- M.D. DISCHARGE POINTS
- ELIMINATED BY PREVENTIVE MEASURES
- REDUCED BY PREVENTIVE MEASURES
- COLLECTED AND TREATED AFTER REDUCTION BY PREVENTIVE MEASURES
- NOT AFFECTED

PLATE IV

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE ABATEMENT MEASURES

**RECOMMENDED ABATEMENT PLAN
FOR
SWATARA CREEK WATERSHED**

SCALE
1000' 0 1000' 2000' 3000'

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ENGINEERS
HARRISBURG, PENNSYLVANIA
SEPTEMBER, 1972