

Project Area No. 10

Location Murrinsville

Township Marion

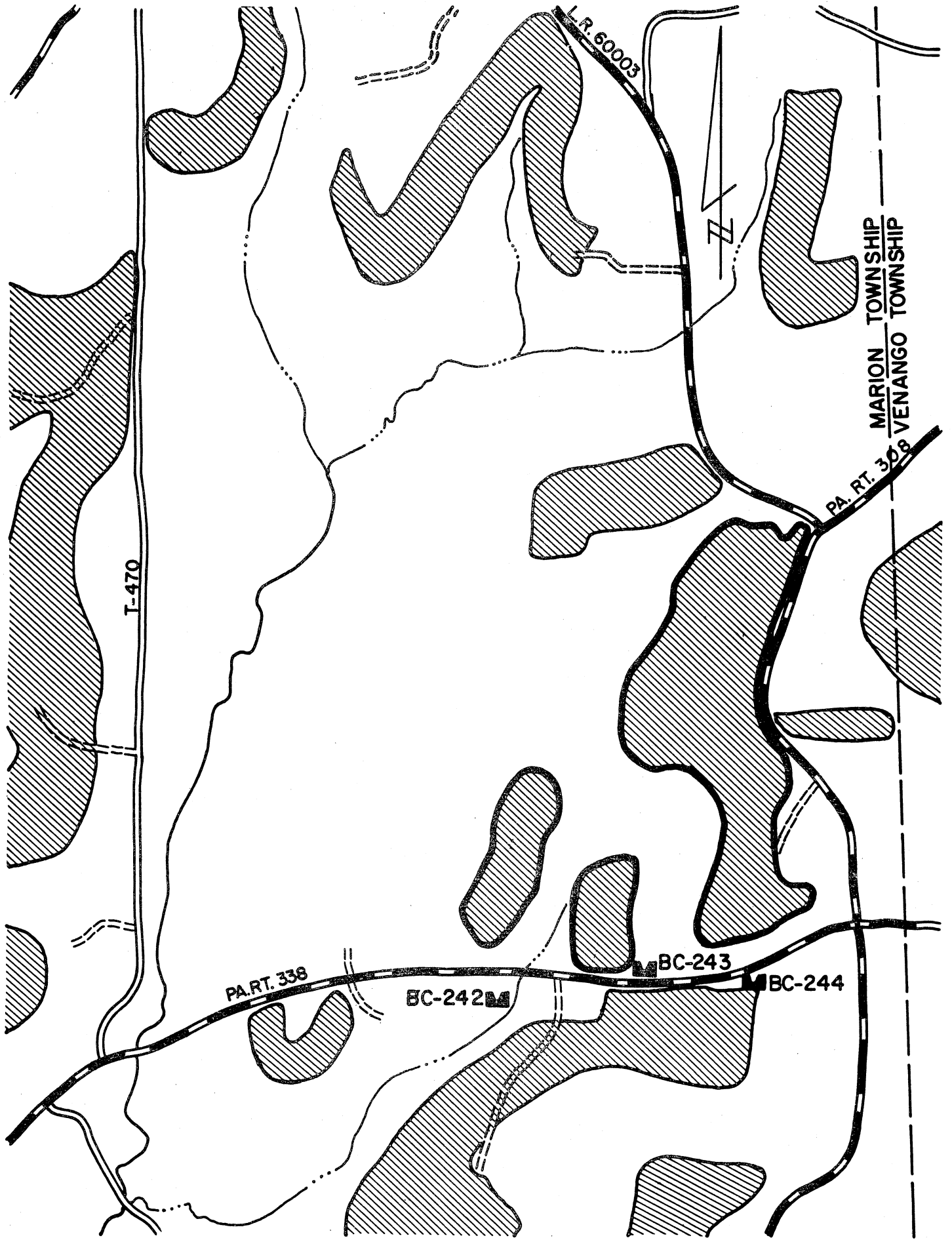
County Butler

Priority Rating 3

This area consists of strip mines in the Middle Kittanning seam of coal with the water discharge through Weir BC 242 and flowing into Blacks Creek. In 1969 this discharge had an average acid load of 41 pounds per day with a maximum acid load in excess of 130 pounds per day. This area is being considered for further stripping which would correct the problem. Otherwise, certain reclamation work should be done. This work would consist of strip mine restoration for an estimated 90 acres of affected area.

The following are the estimated costs for the recommended abatement measures in the project area:

Strip Mine Reclamation	\$90,000
Design, Supervision and Inspection	<u>8,000</u>
Estimated Reclamation Costs	\$98,000



MARION TOWNSHIP  
VENANGO TOWNSHIP

PROJECT MAP NO. 10  
STRIP MINE NEAR MURRINSVILLE

Project Area No. 11

Location Boyers

Township Marion

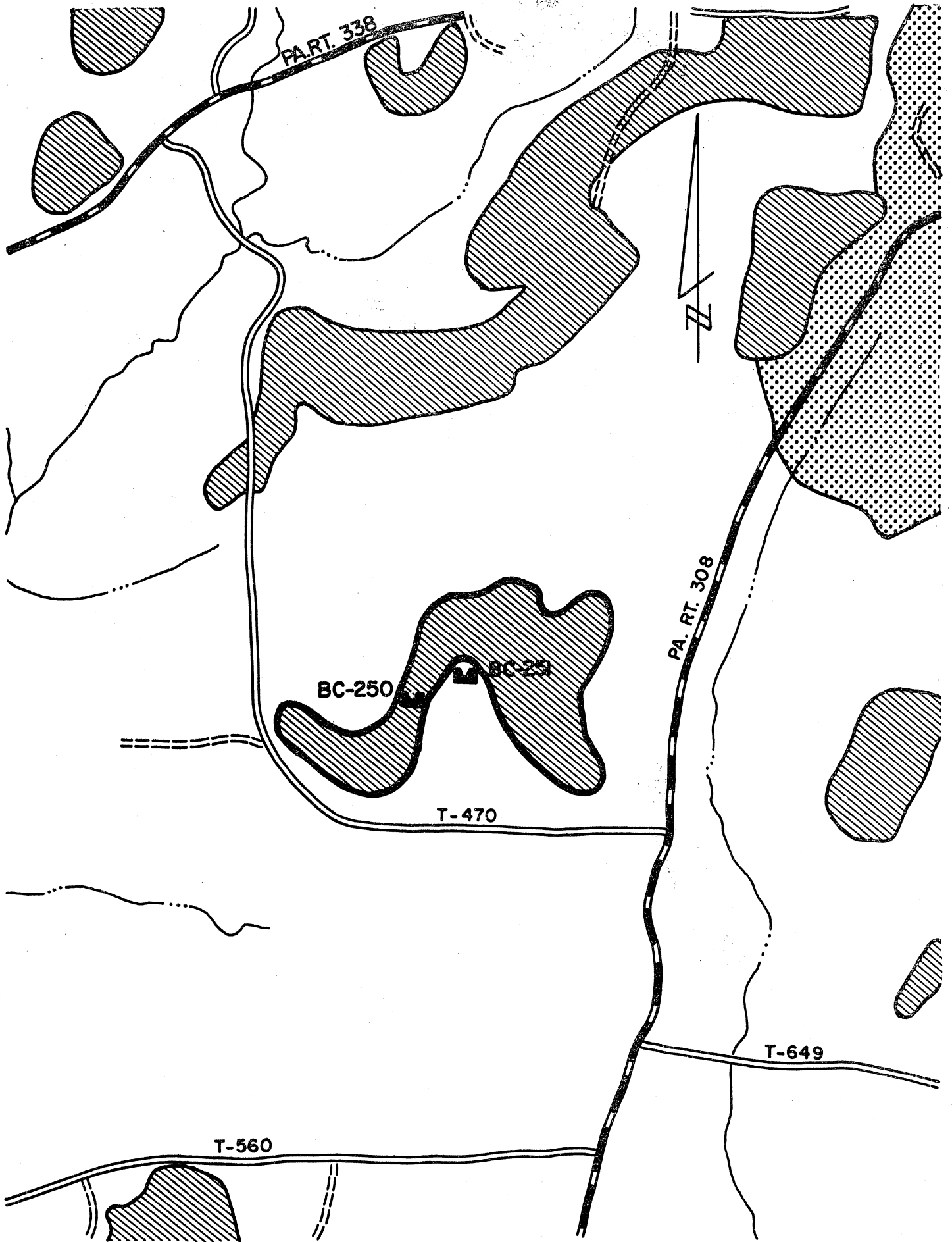
County Butler

Priority Rating 3

This area consists of a strip mine in the Middle Kittanning seam of coal. This open pit has been partially backfilled but has water discharges through Weirs SR 250 and SR 251 into Slippery Rock Creek. During 1969, these discharges had an average acid loading of 10 pounds per day and a maximum acid loading of 50 pounds per day. Of the existing 50 acres of affected area, additional reclamation work is recommended for an estimated 36 acres.

The following are the estimated costs for the recommended abatement measures in the project area:

Strip Mine Reclamation	\$36,000
Design, Supervision and Inspection	<u>4,000</u>
Estimated Reclamation Costs	\$40,000



PROJECT MAP NO. 11  
STRIP MINE NEAR BOYERS

Project Area No. 12

Location Deegan Goff

Township Venango

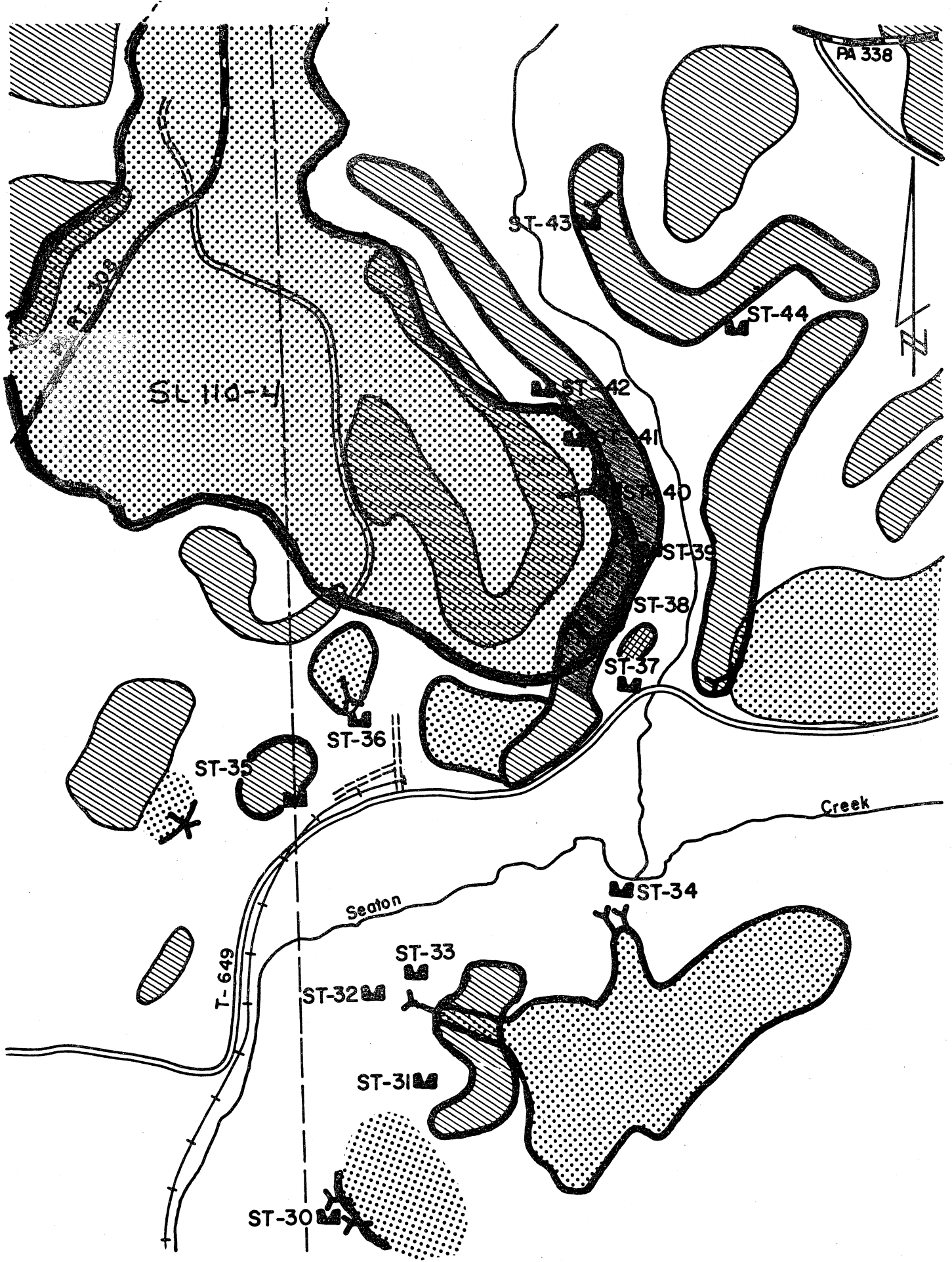
County Butler

Priority Rating 1

This area comprises deep and strip mines in the Clarion seam of coal. It includes the Annandale #2 mine which was one of the largest in the watershed and is now one of the major sources of pollution. The strip mine along the eastern outcrop of this mine cut into the mine workings of Annandale #2 for about 2,500 feet. The discharges are numerous and large and flow into Seaton Creek. These discharges consist of the flows from Weirs ST 30 through ST 44. Weirs ST 38, ST 39, ST 40, ST 41 and ST 43 are at the major pollution sources in the area. During 1969 this area had an average acid production of 526 pounds per day and a maximum in the range of 1520 pounds per day. The proposed abatement project consists of 12 hydraulic seals in deep mine entries, an estimated 2500 lineal feet of grout curtain installation, 180 acres of strip mine restoration and estimated 10,000 cubic yards of refuse pile reclamation.

The following are the estimated costs for the recommended abatement measures in the project area:

Deep Mine Hydraulic Seal	\$ 250,000
Grout Curtain Installation	1,000,000
Strip Mine Reclamation	180,000
Refuse Pile Reclamation	20,000
Design, Supervision and Inspection	<u>150,000</u>
Estimated Reclamation Costs	\$1,600,000



PROJECT MAP NO. 12  
 DEEP & STRIP MINE NEAR DEEGAN GOFF

Project Area No. 13

Location Keystone Area

Township Venango

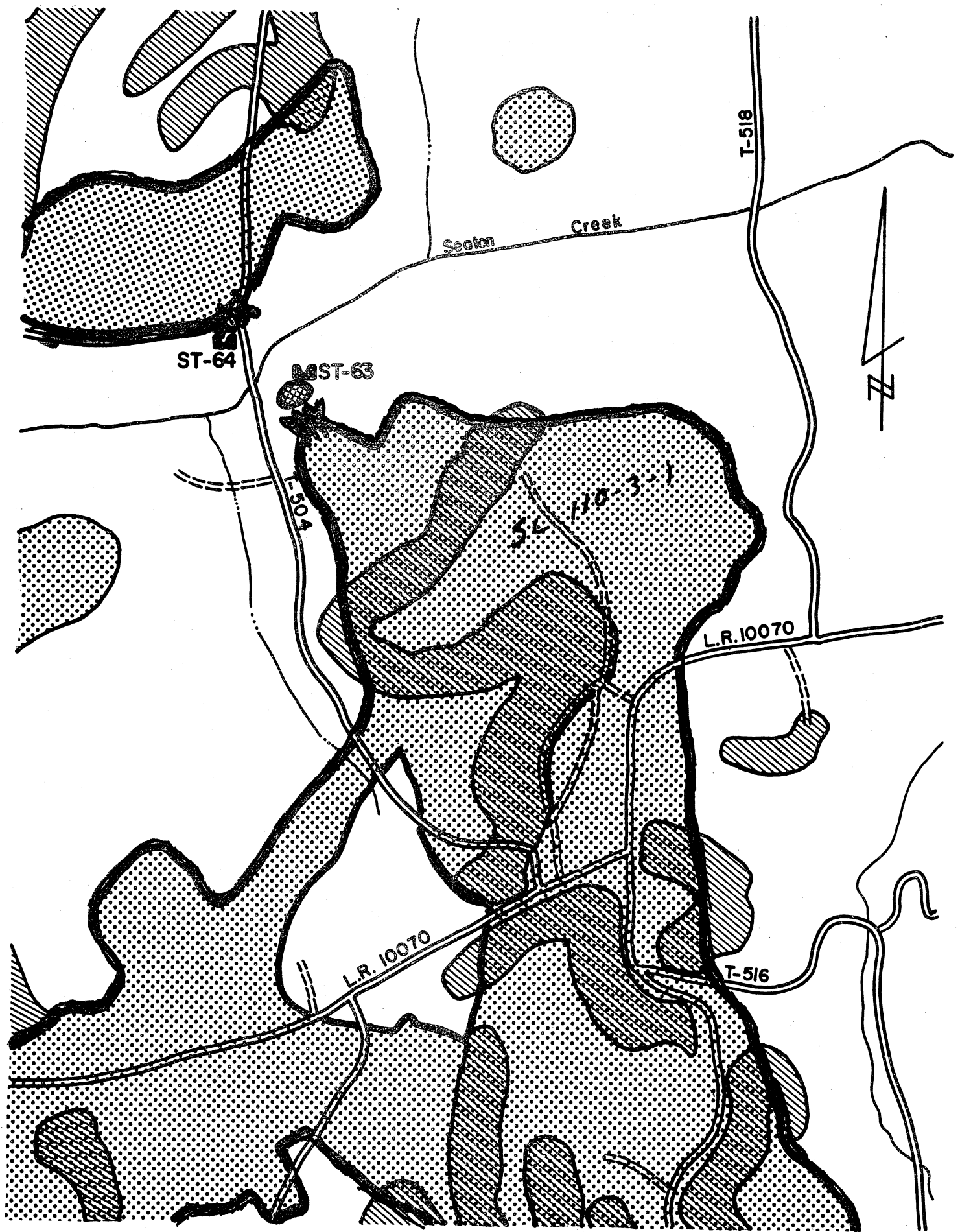
County Butler

Priority Rating 1

This area contains one of the main contributors of mine drainage pollution to the Slippery Rock Creek watershed. The discharges through Weirs ST 63 and ST 64 come from the Keystone 3 and 4 mines which operated in the Clarion seam of coal. During 1969 these discharges produced an average acid load of 632 pounds per day and a maximum acid load in the range of 975 pounds per day. The proposed abatement work consists of hydraulic seals for 6 mine entries and a 15,000 cubic yard refuse pile reclamation project.

The following are the estimated costs for the recommended abatement measures in the project area:

Deep Mine Hydraulic Seals	\$ 180,000
Refuse Pile Reclamation	30,000
Design, Supervision and Inspection	<u>20,000</u>
Estimated Reclamation Costs	\$ 230,000



PROJECT MAP NO. 13  
KEYSTONE NO. 3 & 4 MINE AREA



Project Area No. 14

Location De Sale

Township Venango

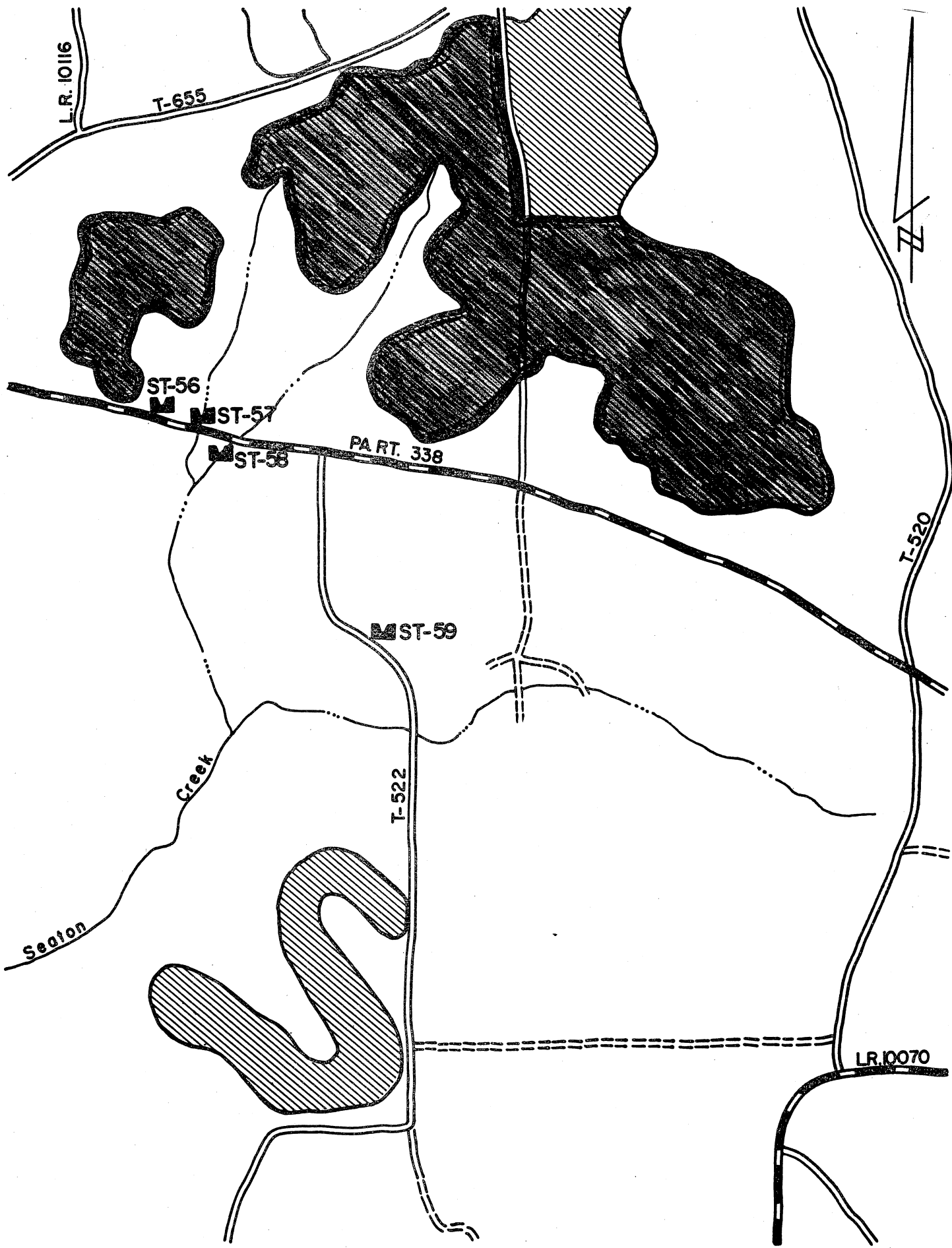
County Butler

Priority Rating 1

This area includes the strip mines, as shown, on the divide between the Slippery Rock Creek and Little Scrubgrass Creek Watersheds. These strip mines need backfilling and spoil neutralization. The discharges flow through Weirs ST 56 to ST 59 into Seaton Creek. During 1969 these discharges produced an average of 480 pounds of acid per day and a maximum of 1000 pounds of acid per day. The total strip mine area consists of 195 acres of which approximately 100 acres require restoration. In addition, spoil neutralization via lime injection is recommended at required locations in the area.

The following are the estimated costs for the recommended abatement measures in the project area:

Strip Mine Reclamation	\$100,000
Lime Injection	150,000
Design, Supervision and Inspection	<u>20,000</u>
Estimated Reclamation Costs	\$270,000



PROJECT MAP NO. 14  
STRIP MINES NEAR DE SALE