

Project Area No. 32

Location Five Points

Township Cherry

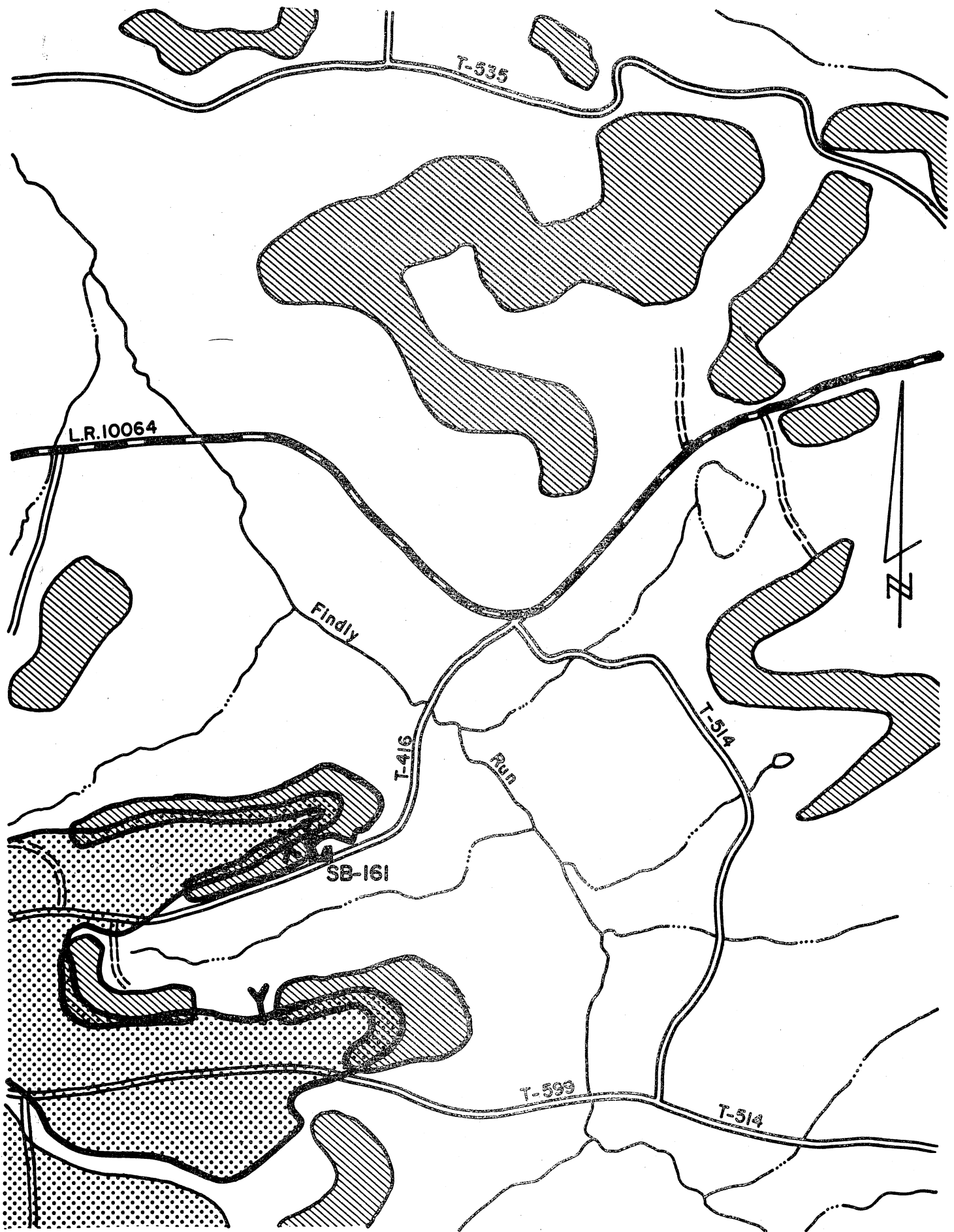
County Butler

Priority Rating 3

This area consists of small deep mines in the Middle Kittanning seam of coal. The discharges flow through Weir SB 161 into the South Branch of Slippery Rock Creek. This discharge has an average acid loading of 7 pounds per day. The proposed abatement work consists of the construction of three deep mine hydraulic seals.

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

Deep Mine Hydraulic Seals	\$60,000
Design, Supervision and Inspection	<u>6,000</u>
Estimated Reclamation Costs	\$66,000



PROJECT MAP NO. 32
DEEP & STRIP MINE NEAR FIVE POINTS

Project Area No. 33

Location Harbor Acres

Township Washington

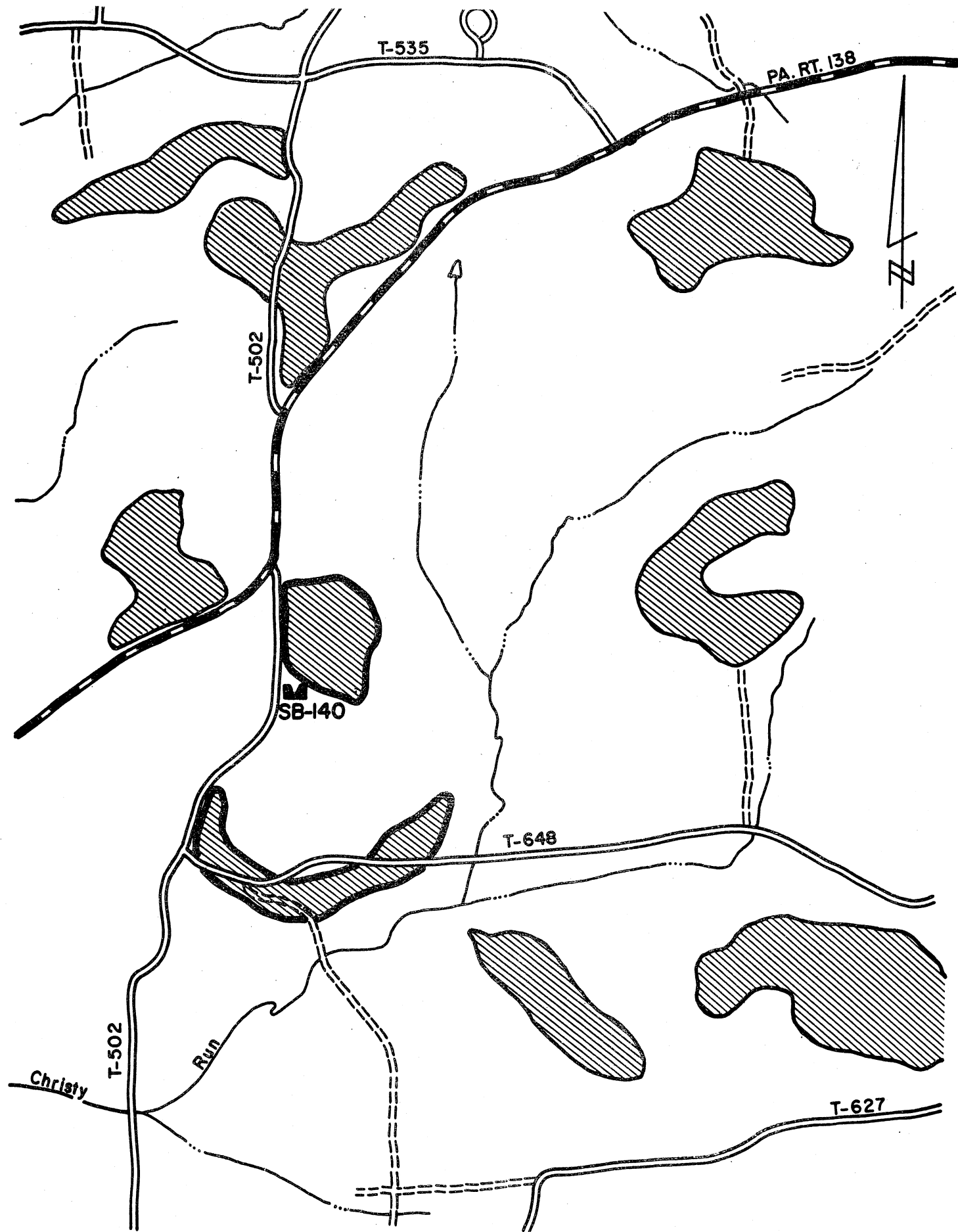
County Butler

Priority Rating 3

This area consists of a strip mine in the Middle Kittanning seam of coal. The discharge flows through Weir SB 140 into the South Branch of Slippery Rock Creek. This discharge has an average acid loading of less than 1 pound per day and a maximum loading of about 1 pound per day. The proposed abatement work consists of an estimated 40 acres of strip mine restoration.

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

Strip Mine Reclamation	\$40,000
Design, Supervision and Inspection	<u>4,000</u>
Estimated Reclamation Costs	\$44,000



PROJECT MAP NO. 33
STRIP MINE NEAR HARBOR ACRES LAKE

Project Area No. 34

Location West Liberty

Township Brady

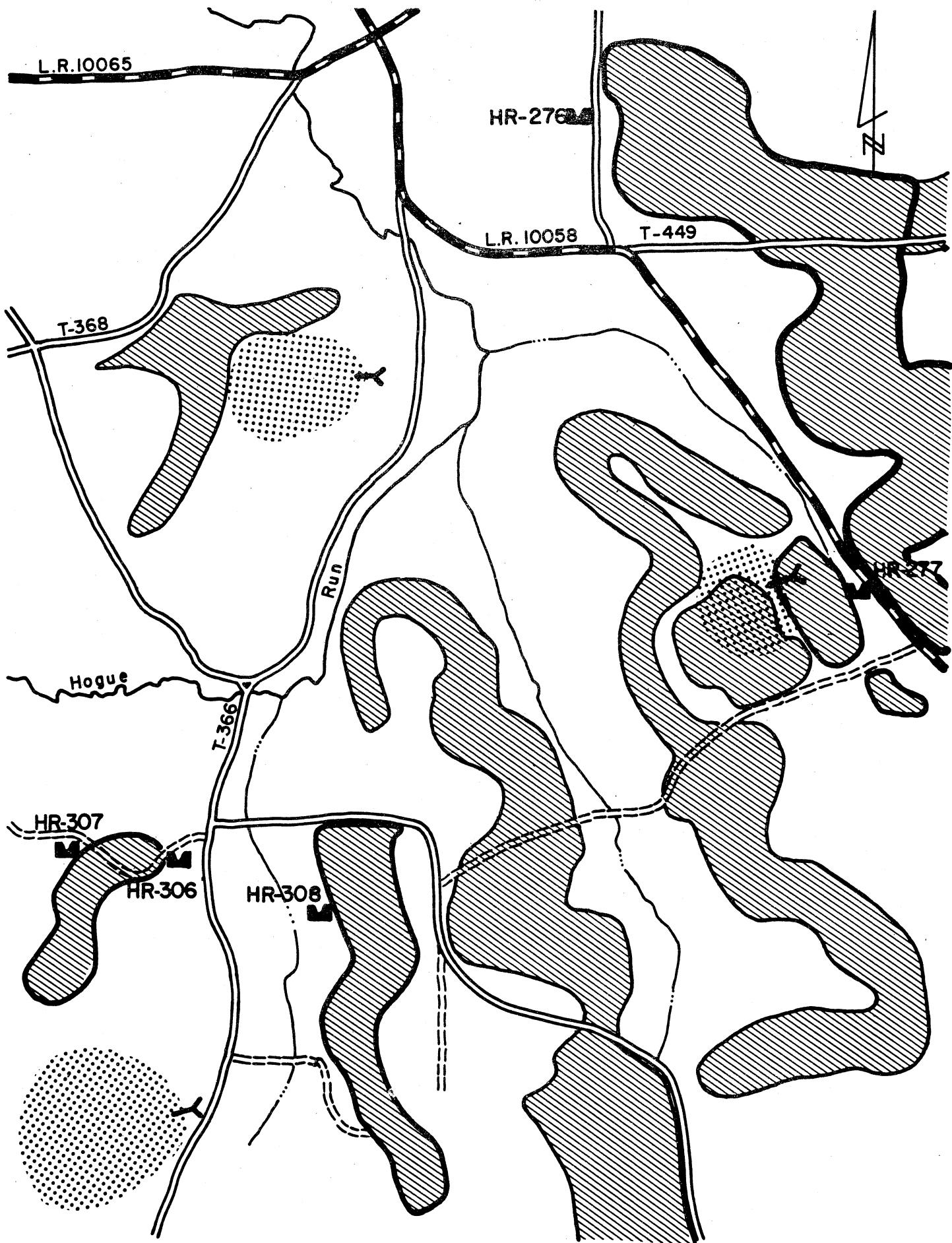
County Butler

Priority Rating 3

This area consists of several strip mines in the Middle Kittanning seam of coal. The discharges flow through Weirs HR 276, HR 277, HR 306, HR 307 and HR 308 into Hogue Run. These discharges have an average acid loading of 35 pounds per lay and maximum acid loading of 120 pounds per day. The proposed abatement work consists of an estimated 175 acres of strip mine restoration.

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

Strip Mine Reclamation	\$175,000
Design, Supervision and Inspection	<u>15,000</u>
Estimated Reclamation Costs	\$190,000



PROJECT MAP NO. 34
DEEP & STRIP MINES NEAR WEST LIBERTY

Project Area No. 35

Location Moraine Corridor

Township Brady

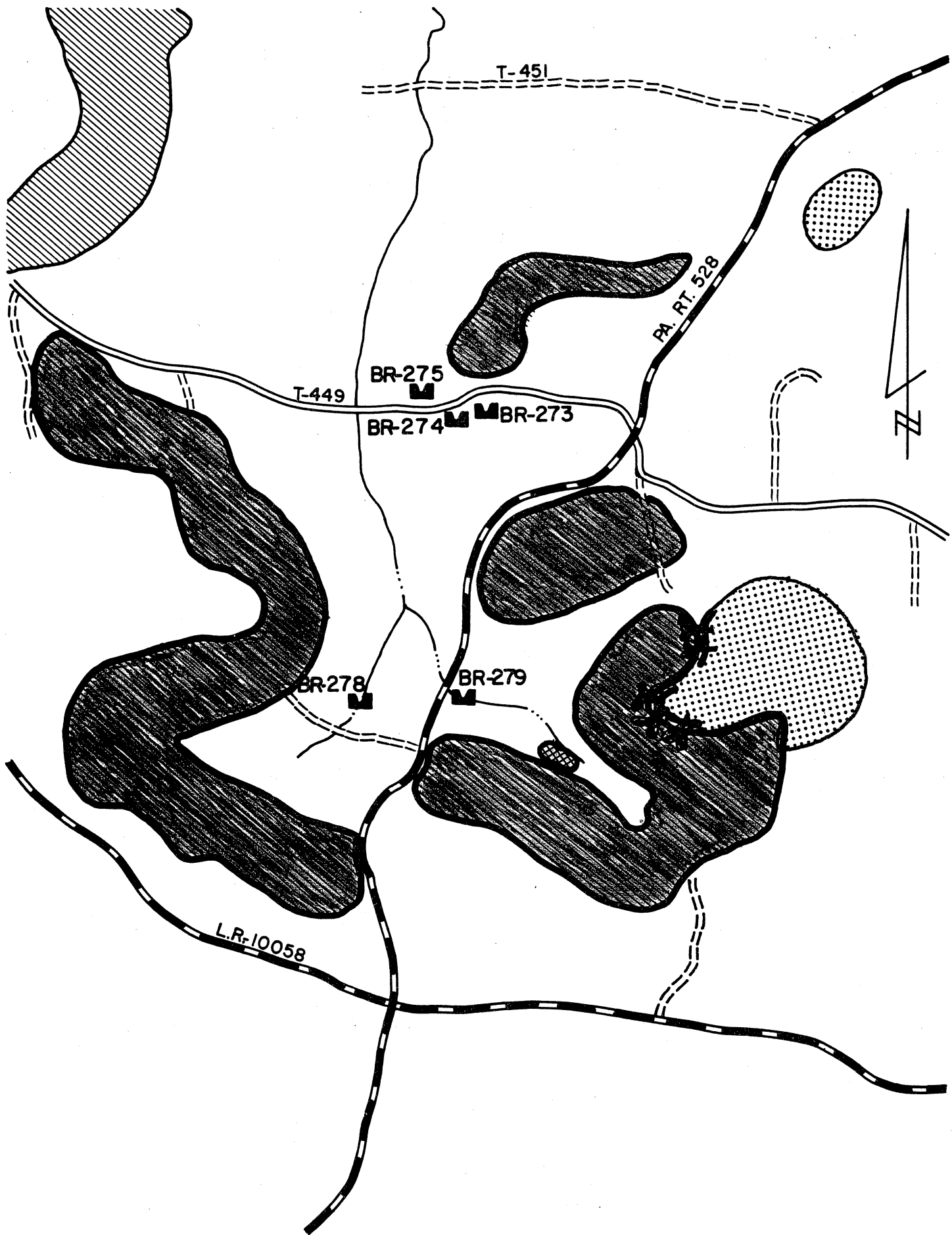
County Butler

Priority Rating 1

This area located in the Moraine State Park Corridor consists of deep and strip mines in the Middle Kittanning seam of coal. The discharges flow through Weirs BR 273, BR 274, BR 275, BR 278 and BR 279 into Big Run. During 1969 these discharges produced an average acid load of 368 pounds per day with a maximum acid load of 850 pounds per day. The proposed abatement plans consist of hydraulic deep mine seals for an estimated 7 deep mine entries, several hundred lineal feet of grout curtain along the applicable highwall area, strip mine restoration including diversion ditches and slope drain flumes for 168 acres of affected area and an estimated 10,000 cubic yards of refuse to be removed and buried in the strip mine areas from several piles and haulage roads in the area. The deep mine sealing and grout curtain installation work is now under construction and the strip mine restoration and refuse reclamation plans will be ready for construction in late 1970 as a "Quick Start" Project SL-110-2.

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

Deep Mine Hydraulic Seals	\$150,000
Grout Curtain Installation	140,000
Strip Mine Reclamation	350,000
Refuse Pile Reclamation	20,000
Design, Supervision and Inspection	<u>60,000</u>
Estimated Reclamation Costs	\$720,000



PROJECT MAP NO. 35
MORAINES STATE PARK CORRIDOR

Project Area No. 36

Location Stone House

Township Brady

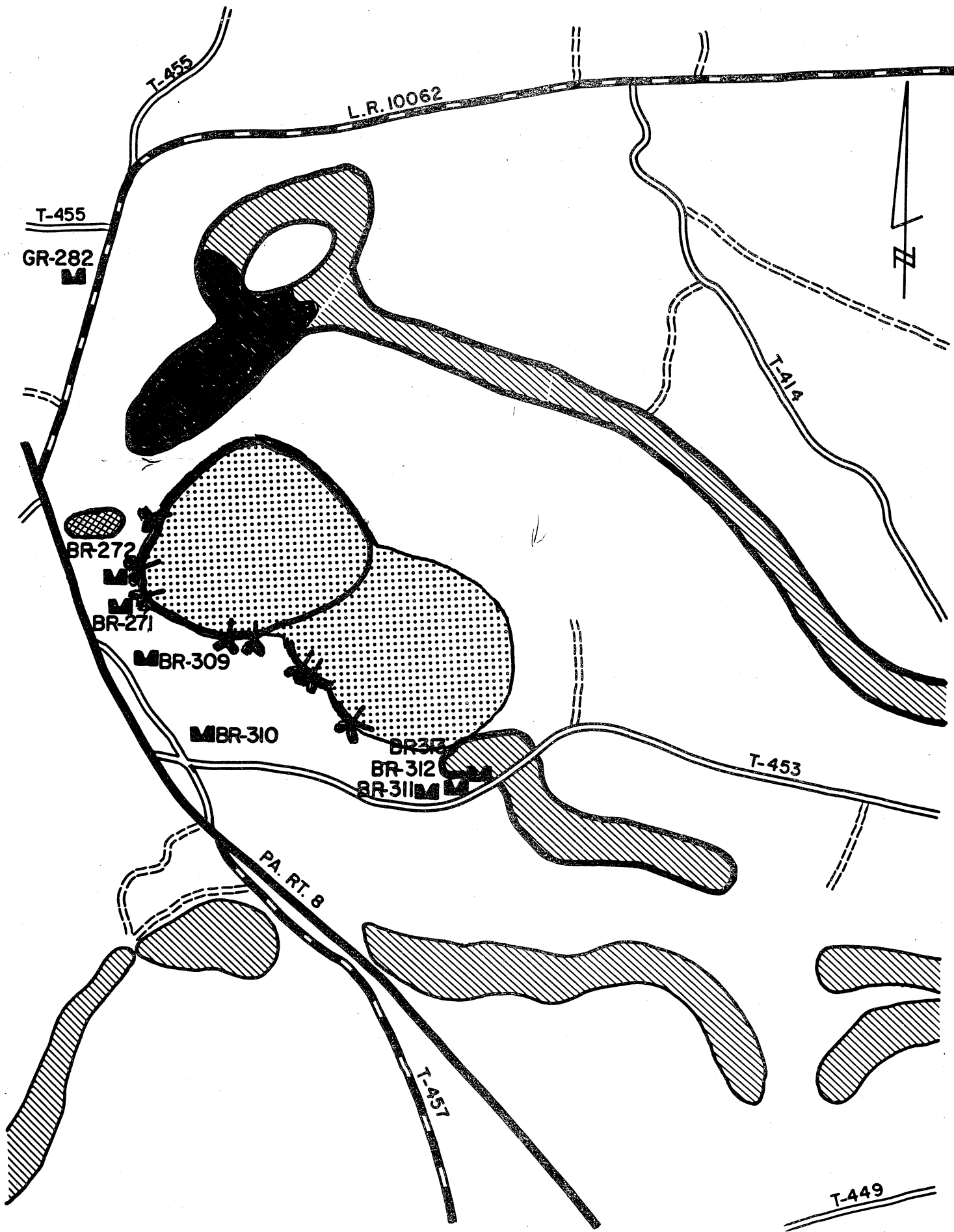
County Butler

Priority Rating 1

This area consists of the Brydon Mine, several small deep mines and two strip mines in the Middle Kittanning seam of coal. The Pennsylvania Historical Society and the Western Pennsylvania Conservancy operate recreation areas at this location. The discharges flow through Weirs GR 282 and BR 271, BR 272 and BR 309 through BR 313 into Glade Run and Big Run. In 1969 these discharges produced an average acid loading of 640 pounds per day and a maximum acid loading of 2,560 pounds per day. The proposed abatement plans consists of deep mine hydraulic seals for an estimated 10 mine entries, several hundred lineal feet of grout curtain, an estimated 100 acres of strip mine restoration and an estimated 15,000 cubic yards of refuse pile removal. Plans and specifications for the construction work of the deep mine hydraulic seals, grout curtain installation and refuse pile removal are presently being prepared and will be ready for bidding in late 1970 or early 1971 as a "Quick Start" Project SL-110-1C.

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

Deep Mine Hydraulic Seals	\$150,000
Grout Curtain Installation	100,000
Strip Mine Reclamation.	150,000
Refuse Pile Reclamation	30,000
Design, Supervision and Inspection	<u>40,000</u>
Estimated Reclamation Costs	\$470,000



PROJECT MAP NO. 36
STONE HOUSE AREA

Project Area No. 37

Location Claytonia

Township Clay

County Butler

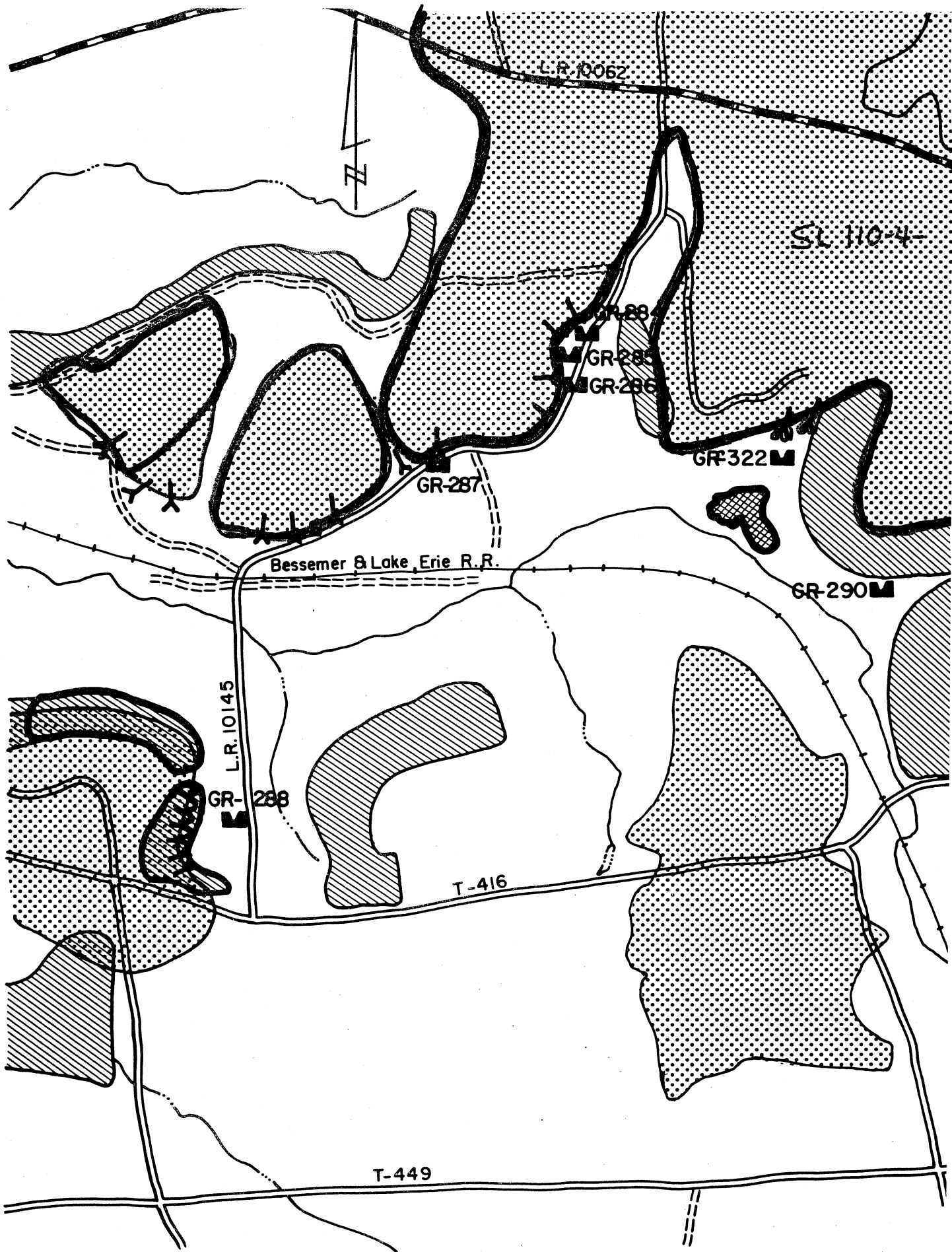
Priority Rating 2

This area consists of the Grant #1 Mine, the largest deep mine in the watershed, plus several small deep and strip mines. These mines are in the Middle Kittanning seam of coal.

The discharges flow through Weirs GR 284 thru GR 288, GR 290 and GR 322 into Glade Run. These discharges have an average loading of 208 pounds of acid per day and a maximum loading of 280 pounds of acid per day. The proposed abatement work consists of hydraulic sealing of an estimated 10 deep mine entries, surface sealing approximately 4 deep mine drifts, strip mine restoration for an estimated 22 acres and an estimated 150,000 cubic yards of refuse pile restoration.

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

Deep Mine Hydraulic Seals	\$200,000
Deep Mine Surface Seals	4,000
Strip Mine Reclamation	22,000
Refuse Pile Reclamation	300,000
Design, Supervision and Inspection	<u>54,000</u>
Estimated Reclamation Costs	\$580,000



PROJECT MAP NO. 37
CLAYTONIA AREA