III. ENVIRONMENTAL CONTEXT, NEW CASTLE AND KENT COUNTIES

New Castle and Kent counties encompass portions of all the state's geographical zones (Figure 1). The Urban zone which incorporates Wilmington, contained few farms, even during the study periods. The economy of the Coastal zone has not historically been based principally on agriculture, although farms occur in the zone during the study period. Only a small part of southwestern Kent County, in Mispillion Hundred, lies in the Lower Peninsula zone. Thus this historic context is concerned primarily with the Piedmont and Upper Peninsula zones.

The extreme northern portion of Delaware lies in the Piedmont. This includes all of Mill Creek and Christiana hundreds and most of Brandywine and White Clay Creek hundreds. The fall line runs roughly along the present-day route of Route 2. "The landscape of the northern and western parts of the zone ranges from nearly level to hilly. The soil is a strong clay, mixed with some loose rock, that is fertile and well-suited for agriculture. In the east, the landscape is flatter but the soil is rockier and less well-drained" (Ames et al. 1990: 32). Elevations average about 250 feet above sea level and steep grades provide as much as 300 feet of local relief and rapidly flowing streams. "Heavy erosion and silting caused in part by the extensive clearing of land in the zone has severely decreased the depth and width of these streams" (Ames et al. 1990: 32). Throughout the study period as today, woods and open uplands characterize the zone.

The Upper Peninsula stretches from the southeastern border of the Piedmont

> through New Castle, Pencader, Red Lion, St. Georges, Appoquinimink, Blackbird, Duck Creek, Little Creek, Kenton, East Dover, West Dover, North Murderkill, South Murderkill, and Milford hundreds to the Sussex County line. The soils in this zone range from medium-textured to moderately coarse, with some areas being well-drained and others very poorly drained. The subsoil consists of sandy loam or sandy clay loam (Ames et al. 1990: 34).

A rolling topography dominates the northern portion of the zone (High Coastal Plain), with elevation differences ranging up to 50 feet. The Low Coastal Plain, which covers most of Kent County, is underlain by sands that have been extensively reworked into a very flat and relatively featureless landscape. Elevation differences range up to only 30 feet, and long, gradual slopes moderate these small differences (Custer et al. 1984: 3-5). Waterways bisect the entire zone, however as in the Piedmont, they have received considerable quantities of silt. "The major streams that remain are the Christiana River, Duck Creek, Smyrna River, St. Jones River, Murderkill River, Little River, Leipsic River, Chesapeake and Delaware Canal, Appoquinimink Creek, and Blackbird Creek" (Ames

et al. 1990: 34). During the study period, woods of oak, hickory, poplar, walnut, and ash interspersed areas under cultivation for agriculture.

The natural environment of the Lower Peninsula shares many qualities with the Upper Peninsula. The soil ranges from moderately well drained to poorly drained with a subsoil of sandy clay or loam. The Coastal zone extends inland to the head of navigation of Delaware's streams and rivers. "Because the head of navigation changes as erosion and silting alter the rivers and streams, the inland boundary of the Coastal Zone is variable from one period to another" (Ames et al. 1990: 35).

> The northernmost part of the zone faces the fresh-water Delaware River fed by small streams from the Piedmont and Upper Peninsula Zones. The soil of the river basin ranges from moderately well-drained and medium textured to tidal marsh land. The marshes contain a variety of vegetation... and wildlife... The middle portion of the zone is associated with the Delaware Bay. The northern section consists of tidal wetlands with marsh mud banks containing saltmarsh cordgrass and salt hay. These wetlands also provide a habitat for a wide variety of wildlife... Further south the coast consists of narrow sandy beaches with salt marshes behind them" (Ames et al. 1990: 36).

Mill Creek Hundred (Figures 4 and 5)

Bordered on the north and northwest by Pennsylvania, on the east by Christiana Hundred, and on the south and southwest by White Clay Creek Hundred, Mill Creek Hundred lies wholly within the Piedmont zone in northwestern New Castle County. Red Clay Creek forms its eastern boundary, and White Clay Creek its southern and southwestern boundaries. The creeks join the Christiana River at Churchman's Marsh, continuing to the Delaware River as the Christiana River. Mill Creek also flows south through the hundred, emptying into White Clay Creek just west of its junction with Red Clay Creek.

The northern 75% of Mill Creek Hundred contains principally soils of the Glenelg-Manor-Chester association. These well drained, medium-textured soils formed over micaceous crystalline rocks. Elsinboro-Delanco-Urban land soil complexes cover most of the southern end of the hundred. These moderately well to well drained, medium-textured soils lying on level to moderately sloping terrain, range from relatively undisturbed to severely disturbed, especially along the Route 2 corridor. These soils originally formed in old alluvium on stream terraces. A narrow band of Sassafras-Fallsington-Matapeake soils forms the southern border of the hundred. These poorly to well drained, moderately coarse to medium-textured soils lie on level to gently rolling land at the Piedmont's southern extreme (Soil Conservation Service 1970: n.p.).

FIGURE 4
MILL CREEK HUNDRED 1849 REA AND PRICE MAP

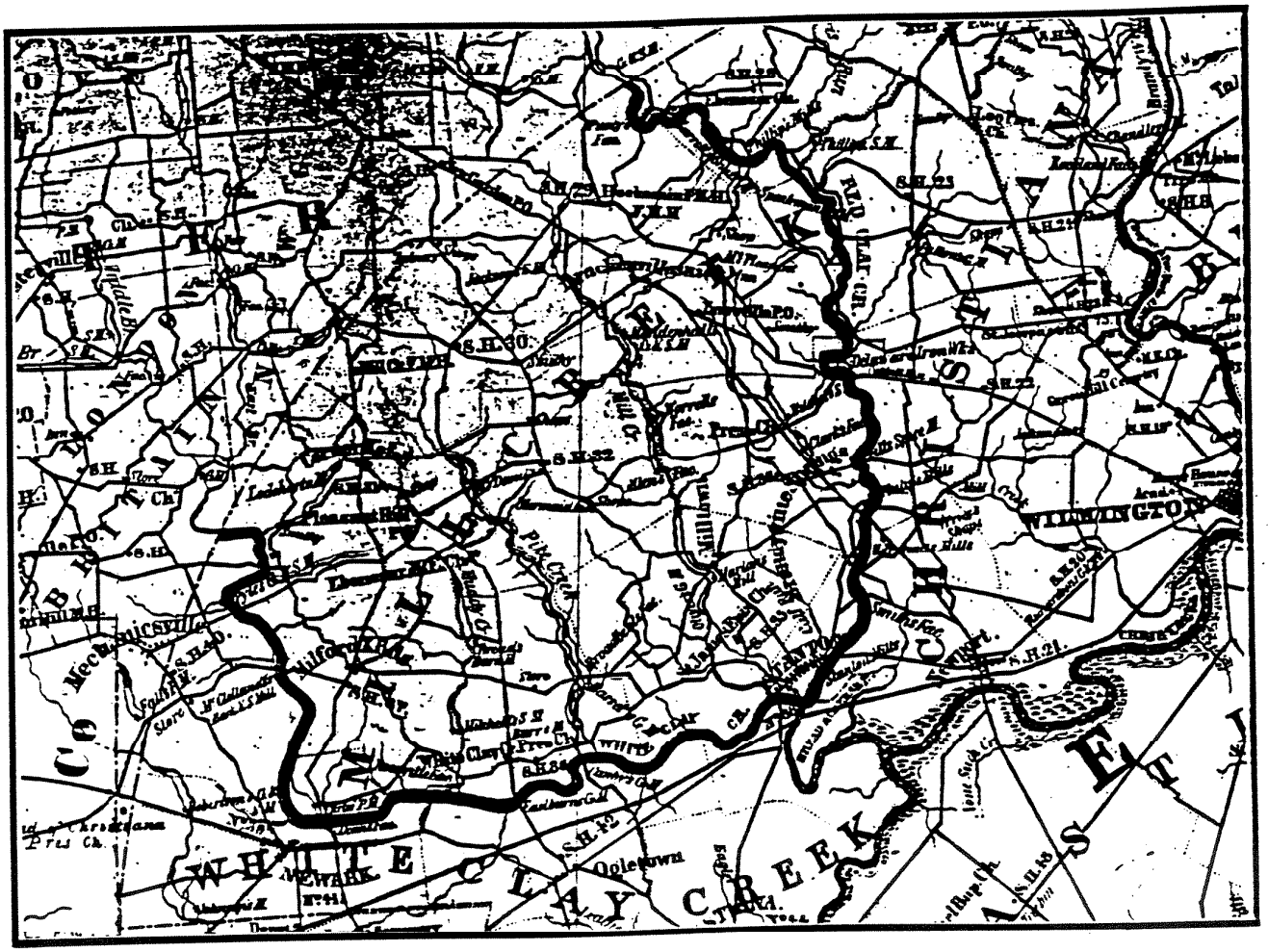
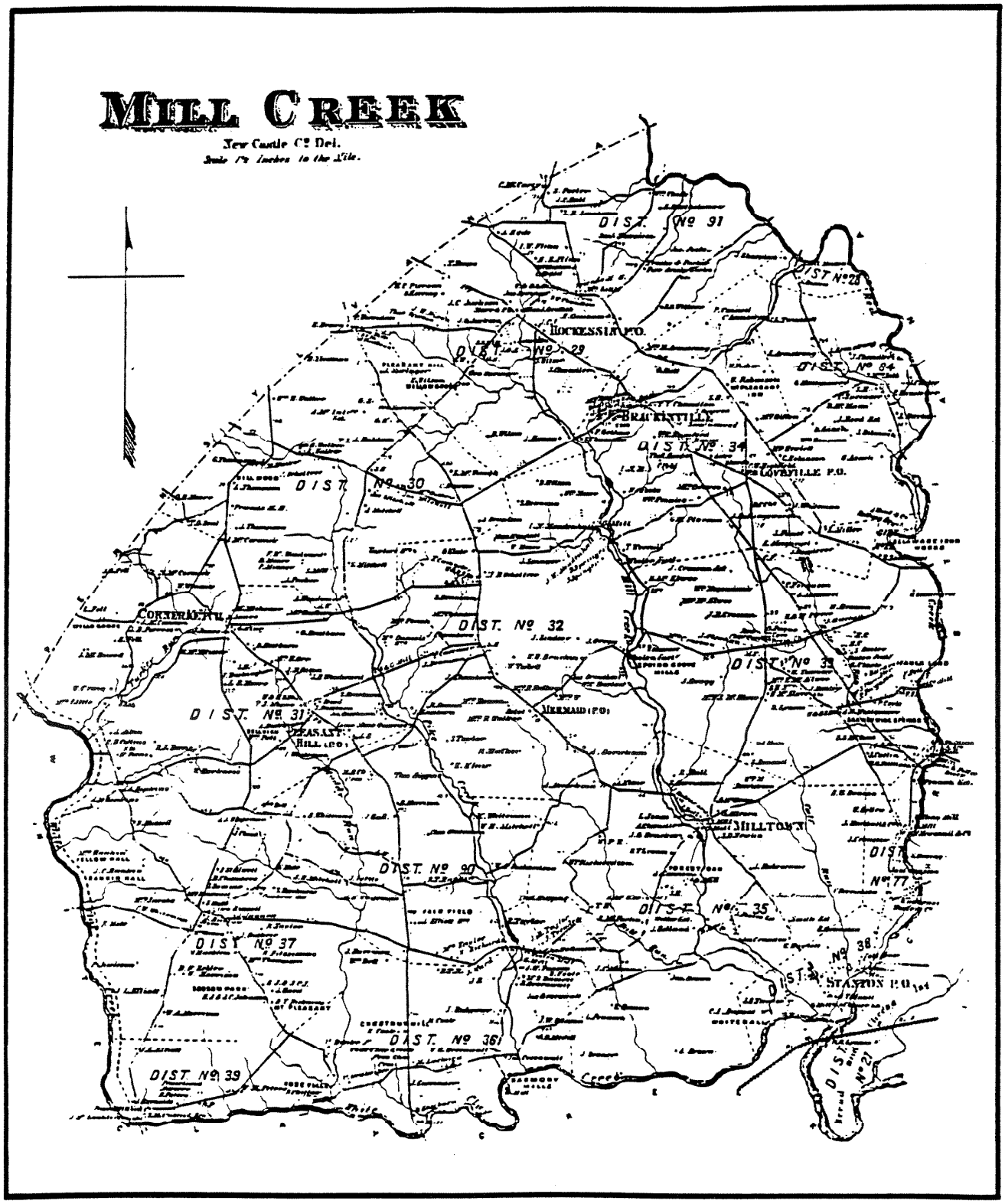


FIGURE 5
MILL CREEK HUNDRED 1868 BEERS ATLAS



Extending four miles from its northernmost juncture with the state of Pennsylvania to White Clay Creek, and 3.5 miles east-to-west, Mill Creek Hundred covers roughly 14 square miles, by far the smallest study hundred.

Appoquinimink Hundred (Figures 6 and 7)

Originally bounded on the north by Appoquinimink Creek and on the south by Duck Creek, both of which flow east into the Delaware River, Appoquinimink Hundred was the southernmost hundred in New Castle County, between St. George's Hundred and the Kent County line... A third waterway, Blackbird Creek, became the dividing line when Blackbird Hundred was partitioned from Appoquinimink in 1875. Blackbird Creek flows from the southwest corner of the hundred northeast into the Delaware River... Other small creeks run throughout the hundred emptying into the Delaware and its tributaries. Extensive coastal wetlands range along the Delaware River...

...Appoquinimink and Blackbird hundreds contain five basic soil types. Most fertile are the Matapeake-Sassafras associated soils characterized as "nearly level to steep, well-drained, medium-textured and moderately coarse textured soils on uplands." The Matapeake-Sassafras soils compose the Levels west of Middletown and represent Delaware's most productive farming resource. The southwest corner of New Castle County is composed primarily of the Fallsington-Sassafras-Woodstown association described as "undulating, poorly-drained to well-drained, medium-textured and moderately coarse textured soils on uplands." Much of this section of the hundred is broken up with shallow ponds and second growth timber... An area of Sassafras-Fallsington soils extends to the east of the association. Here the land is slightly more fertile... The Keyport-Elkton association to the east exhibits the same qualities... Finally, the eastern shoreline composed of marsh and "short tidal streams" ranges along the coastline.

...Encompassing 114 square miles, the hundred stretched approximately 13 miles from the Delaware River shoreline to the Maryland border and roughly 10 miles from the Appoquinimink Creek to Duck Creek (Siders et al. 1991: 8, 10).

Little Creek Hundred (Figures 8 and 9)

Little Creek Hundred is located in northern Kent County, between Duck Creek and Dover hundreds... It is bounded on the north by the Leipsic River and the Little Duck Creek and on the south by the Little Creek, all of which flow east into the Delaware River. These rivers are fed by numerous small tributaries that wander through the hundred, reaching back to

FIGURE 6
APPOQUINIMINK HUNDRED 1849 REA AND PRICE MAP

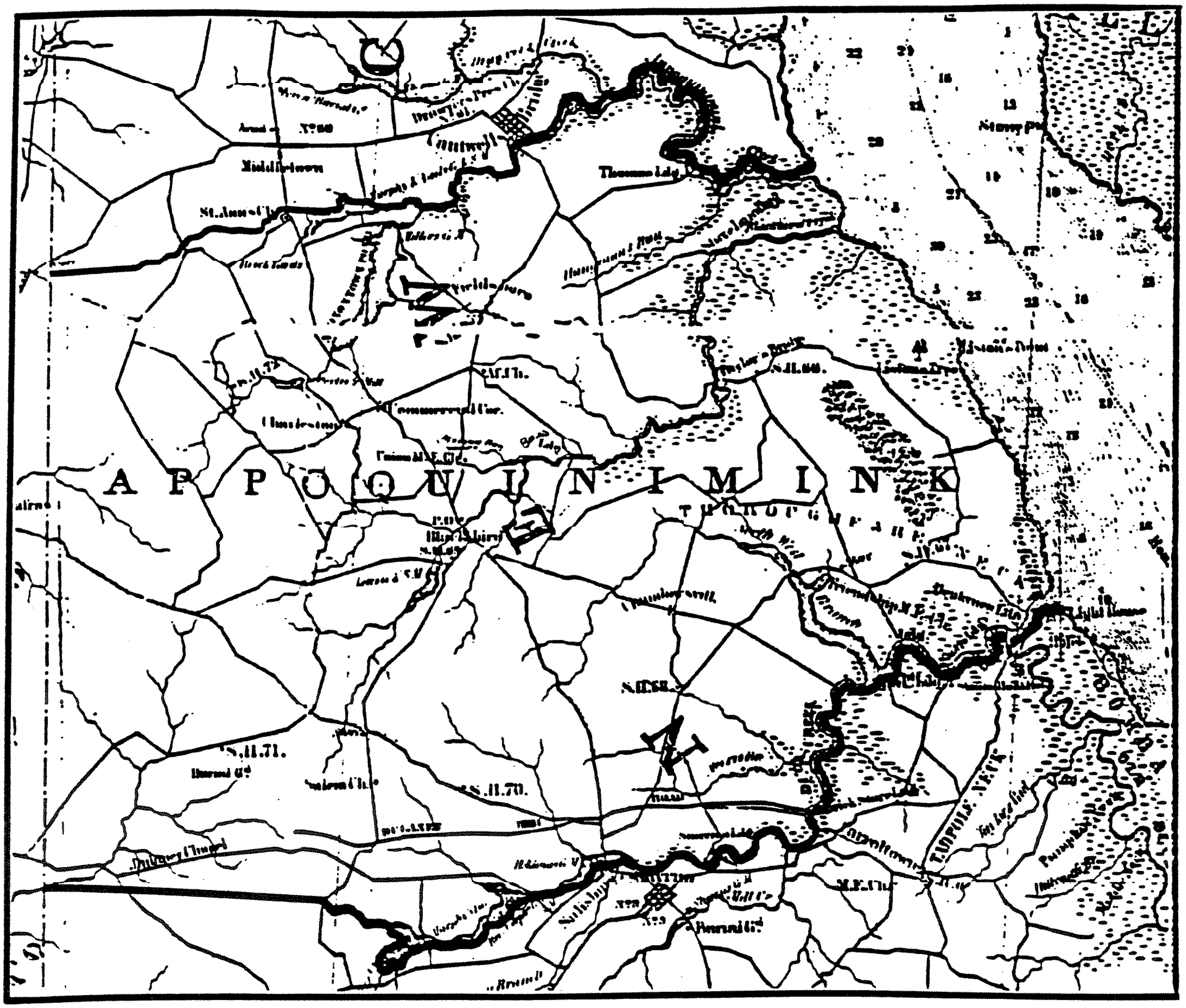


FIGURE 7
APPOQUINIMINK HUNDRED 1868 BEERS ATLAS

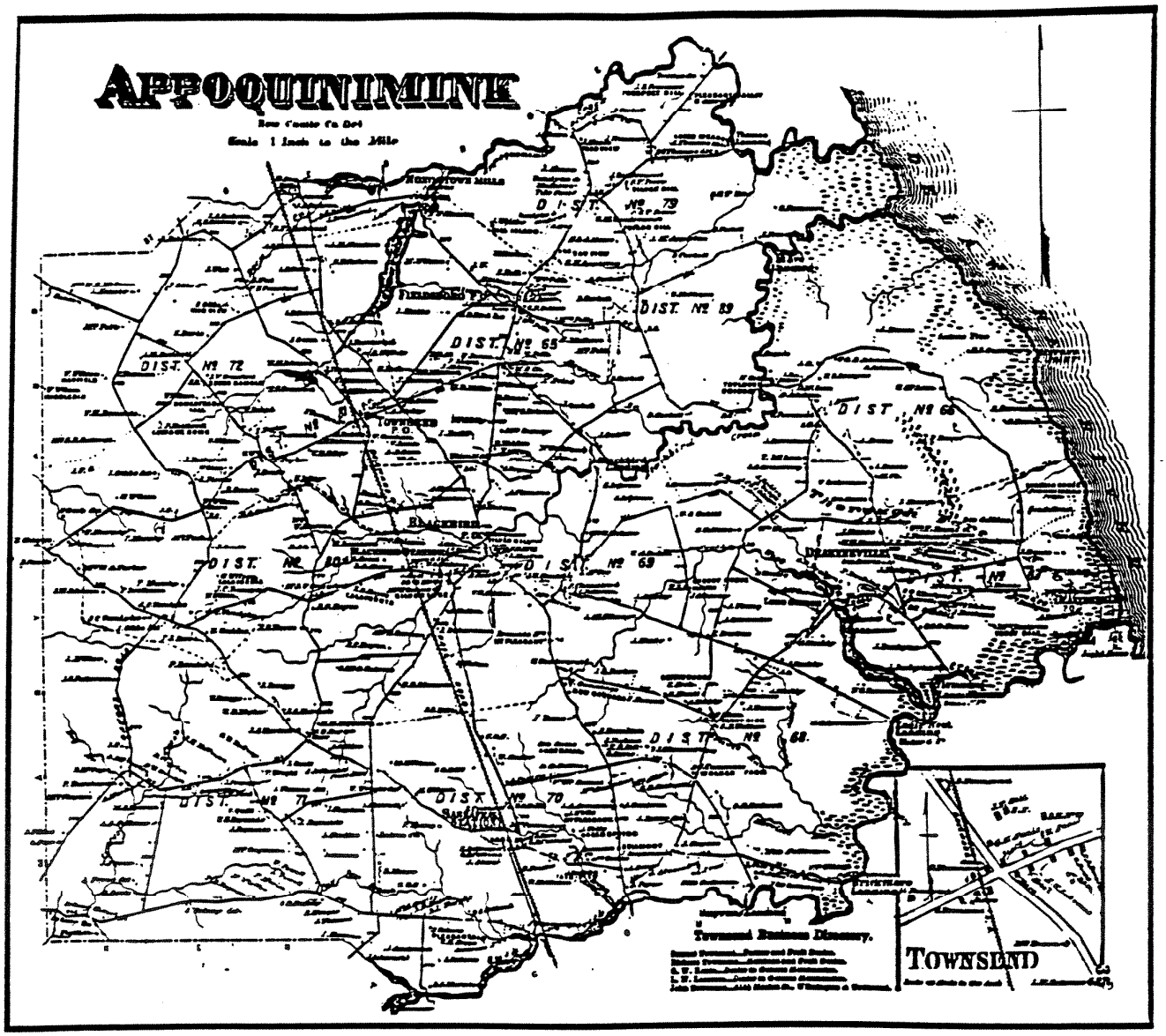


FIGURE 8
LITTLE CREEK HUNDRED 1859 BYLES MAP

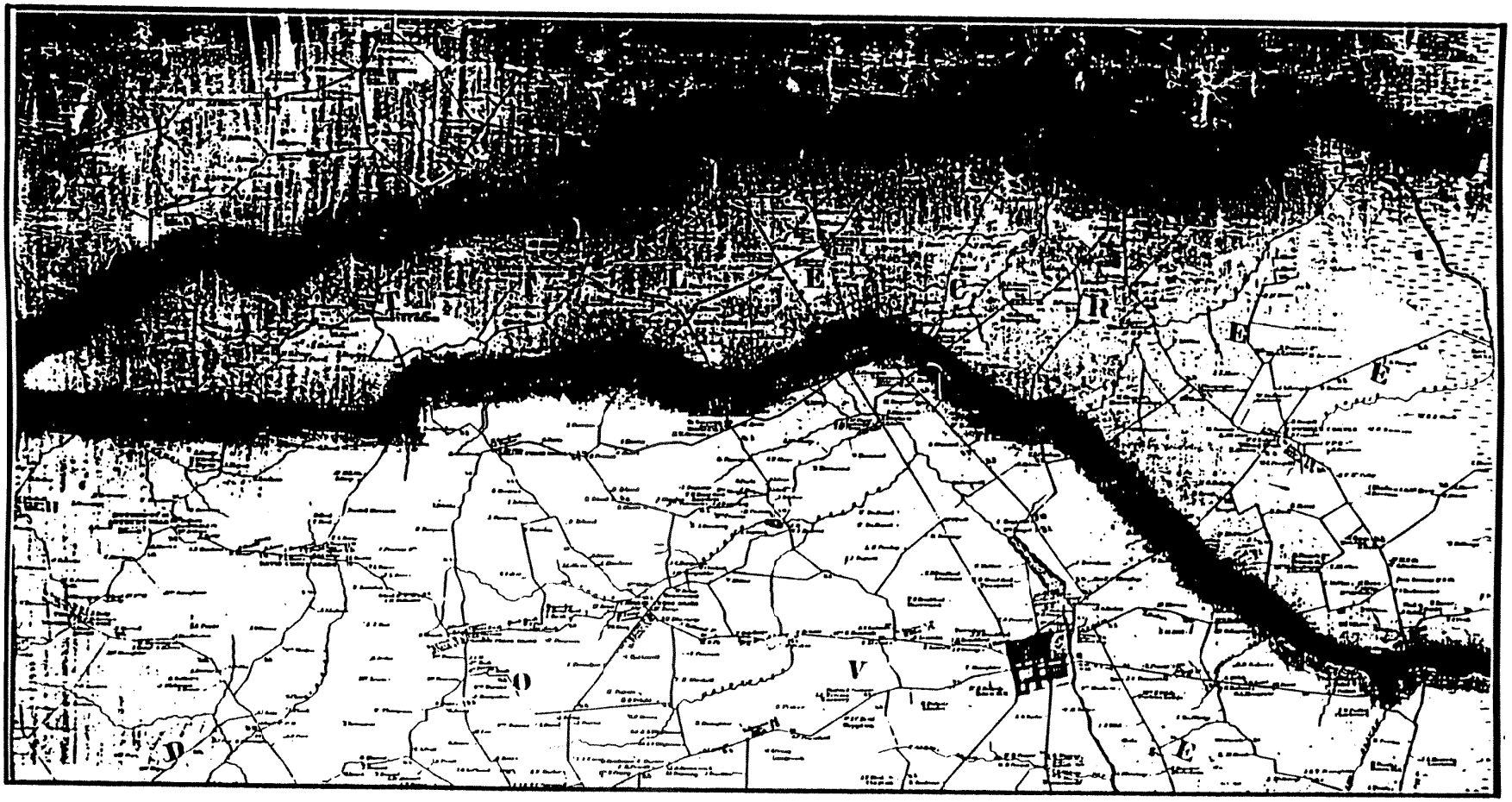
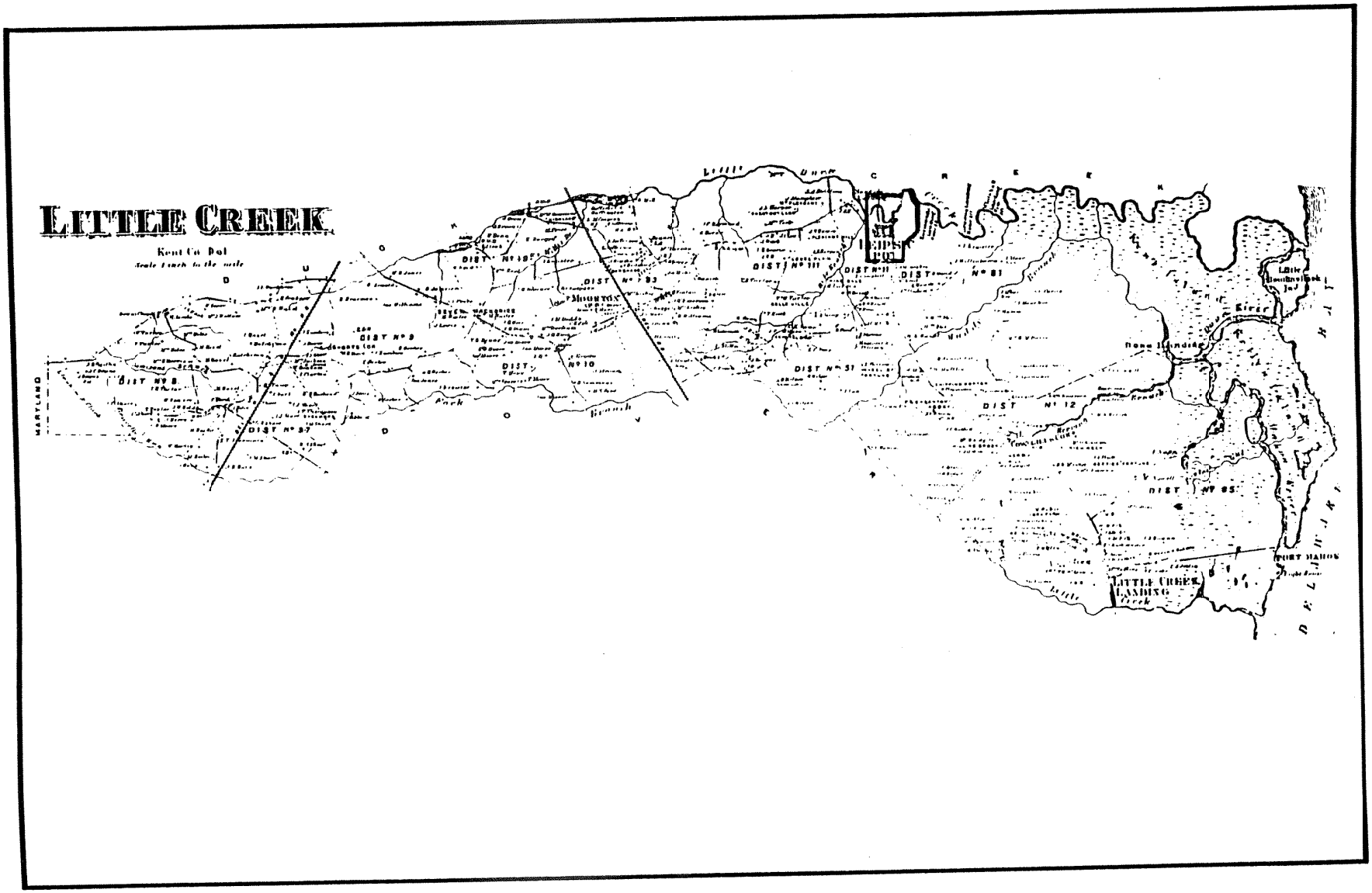


FIGURE 9
LITTLE CREEK HUNDRED 1868 BEERS ATLAS



the divide that separates the Delaware watershed from the Chesapeake. There is easy access to water everywhere in the hundred, but the western section is considerably less marshy and swampy than the eastern coastal portion.

...The western third of the hundred consisted of Fallsington-Sassafras-Woodstown and Pocomoke-Fallsington-Sassafras associations of level to sloping, variably drained soils composed of moderately to rapidly permeable subsoils and clay and sand loam. The Sassafras-Fallsington association occupying the middle third of the hundred are comparable to those found in Appoquinimink Hundred. To the east the moderately permeable salty clay loam soils of the Othello-Matapeake-Mattapex association give way to tidal marsh.

...[Until] 1869, the hundred encompassed 71 square miles, stretching approximately 19 miles from the coast of the Delaware River to the Maryland border. In 1869, Kenton Hundred was created from the western sections of Duck Creek and Little Creek hundreds. The new western border of Little Creek Hundred became the track of the Delaware Railroad... The new hundred was approximately half the size of the original area (Siders et al. 1990: 10).

Murderkill Hundred (Figures 10 and 11)

Bounded on the north by the Saint Jones River and Murderkill Creek to the south, Murderkill Hundred is located in central Kent County between Dover Hundred and Mispillion Hundred... The soil associations for Murderkill Hundred are comparable to those described in Little Creek Hundred. In 1867 the hundred was divided in half as North and South Murderkill hundreds.... The largest of the test hundreds, Murderkill Hundred encompassed 140 square miles, extending 18 miles from the Delaware shoreline to the Maryland border and 10 miles from the Saint Jones River to the Murderkill Creek (Siders et al. 1990: 12).

FIGURE 10
MURDERKILL HUNDRED 1859 BYLES MAP

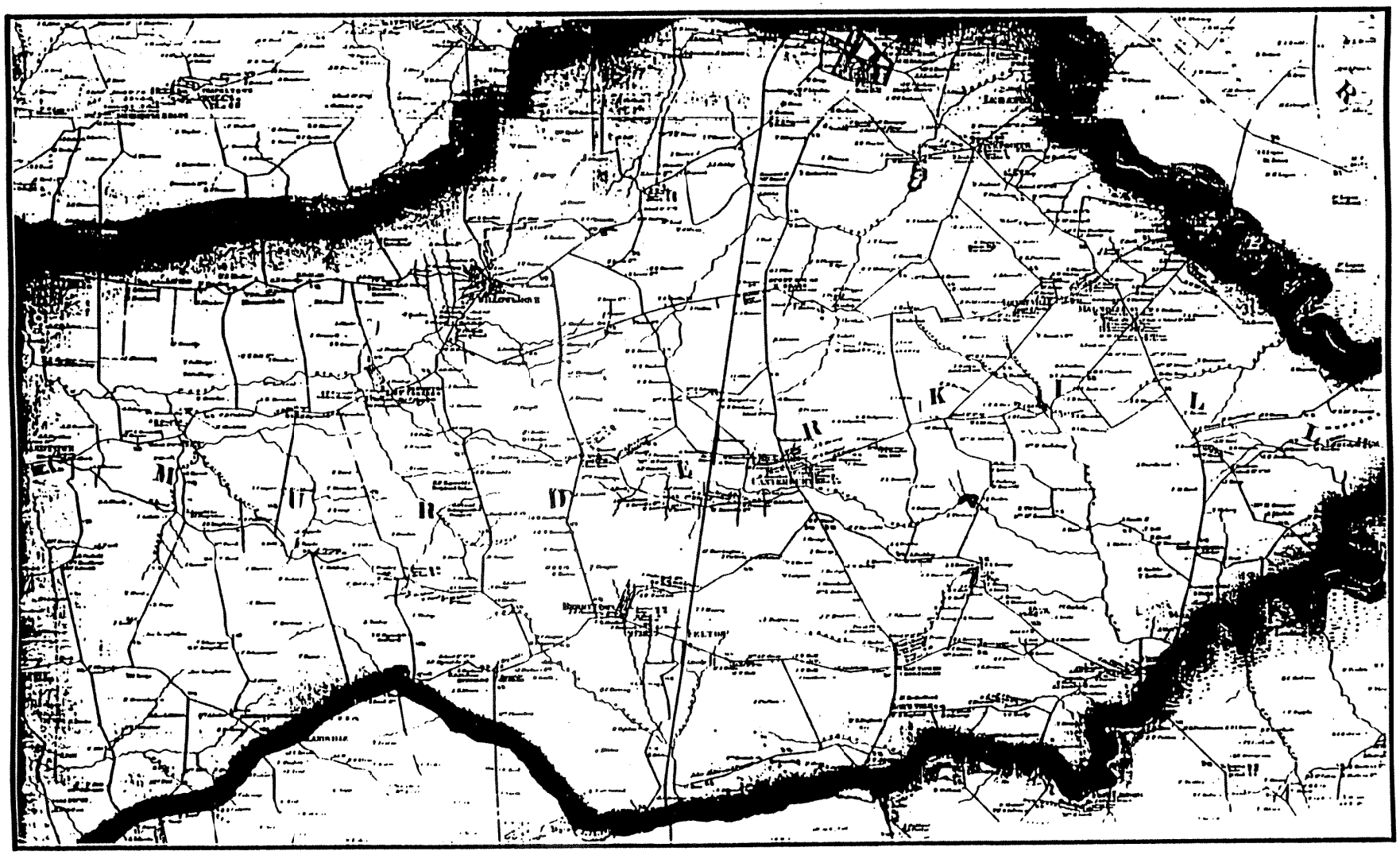
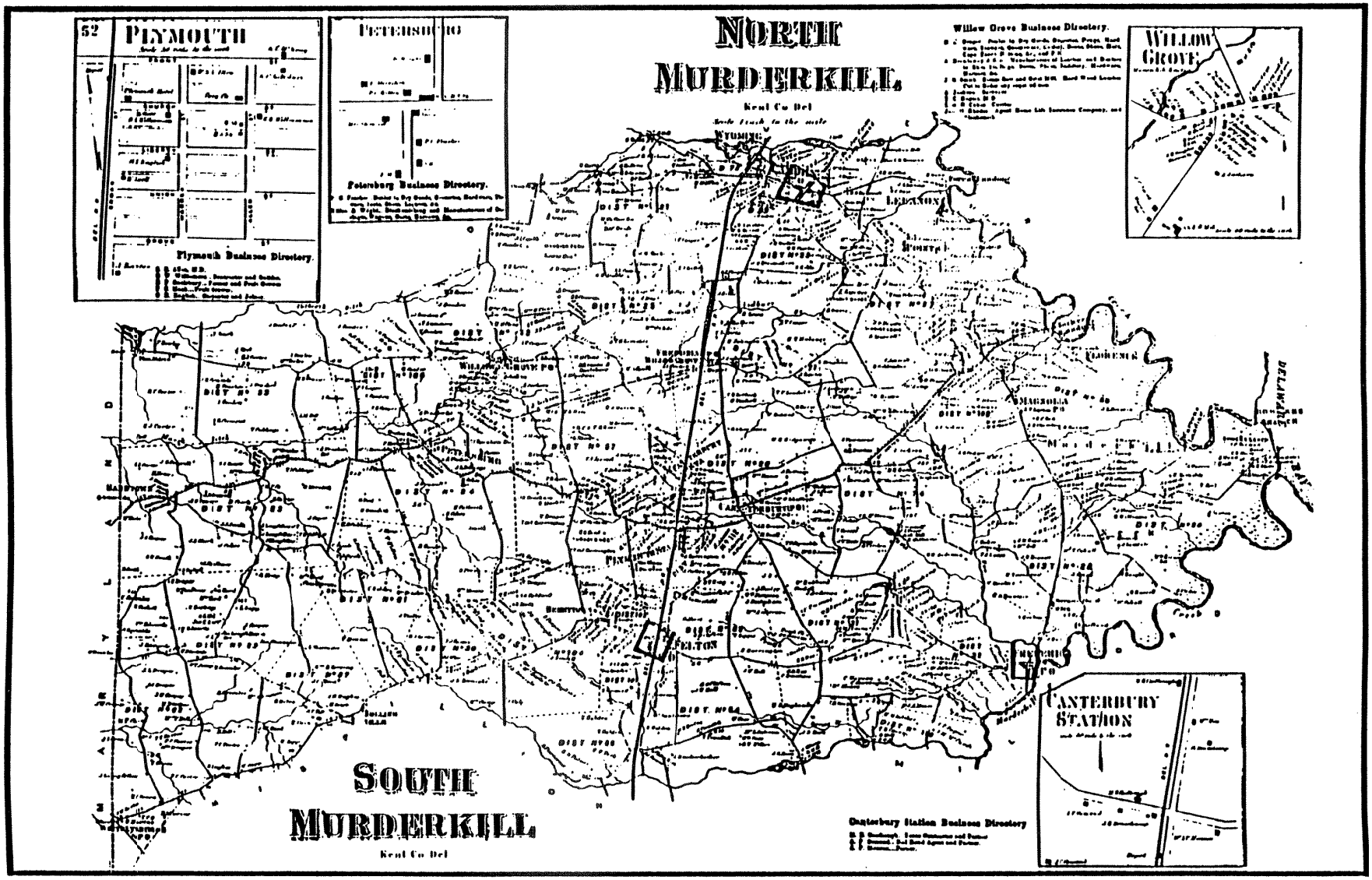



FIGURE 11
MURDERKILL HUNDRED 1868 BEERS ATLAS