

LIST OF MAP UNITS
(For complete descriptions, see Description of Map Units in accompanying pamphlet.)

COASTAL PLAIN
MANMADE DEPOSITS

- Crabgrass bog
- Artificial fill
- Driveway spoil
- Basement mine and pit spoil (blasted diorite)
- Class sand mine and pit spoil (silica)
- Sand and gravel pit spoil
- Claypit spoil

MODERN DEPOSITS

- Beach deposits (Holocene)
- Albion (Holocene)
- Sub-marsh deposits (Holocene to Pleistocene)
- Savanna deposits (Holocene to Pleistocene)

EOLIAN DEPOSITS

- Dune field deposits (Holocene to Pleistocene)

MARGINAL MARINE DEPOSITS (WARM CLIMATE, HIGH SEA LEVEL)

- Cape May Formation (Pleistocene)
- Unit 1 (early Wisconsinan? to late Sangamonian)
- Unit 2 (late Sangamonian)
- Barrier lagoon facies (late Sangamonian)
- Unit 3 (early Sangamonian)
- Beach-barrier facies (early Sangamonian)
- Cape May Formation, undivided (early Wisconsinan? to early Sangamonian)

FLUVIAL DEPOSITS (COLD CLIMATE, LOW SEA LEVEL)

- Fluvial deposits at Van Sver Lake (Graywacke 1 of Owens and Maird, 1975; Van Sver Lake beds of Owens and Maird, 1979) (late Wisconsinan)
- Fluvial deposits at Spring Lake (Graywacke 2 of Owens and Maird, 1975; Spring Lake beds of Owens and Maird, 1979) (early Wisconsinan)

WEATHERED MATERIALS AND TERRESTRIAL DEPOSITS

- Slope and Valley Deposits
- Colluvium and alluvium unit 1 (Pleistocene)
- Banded-channel deposits (Pleistocene)
- Debris-flow and alluvial fan deposits, undivided (Pleistocene)
- Colluvium and alluvium unit 2 (Pleistocene)
- Colluvium and alluvium unit 3 (Pleistocene)
- Colluvium and alluvium unit 4 (Pleistocene)
- Colluvium and alluvium unit 5 (Pleistocene)
- Colluvium and alluvium, undivided (Pleistocene to Miocene)

Hilltop Residuals

- Leached residuum of the Freshkill uplands (Quaternary and Tertiary)
- Leached residuum at Warren Grove (Quaternary and Tertiary)
- Silts (Tertiary)

MARINE, MARGINAL MARINE, ESTUARINE, DELTAIC, AND FLUVIAL DEPOSITS

- Unnamed unit beneath Cape May Peninsula (upper Pleistocene?)
- Piscataway Formation (late Miocene? to Pliocene)
- Bedford Formation (Miocene)
- Charred bar forms
- Cohansey Formation (Miocene)
- Upper delta front facies
- Fluvial gravel facies
- Kirkwood Formation (Miocene)

OLDER ROCKS

- Mechanicville Formation to Shark River Formation, undivided (Upper Cretaceous to Eocene)
- Woodbury Formation (Upper Cretaceous)
- Potomac Formation to Merchantville Formation, undivided (Upper Cretaceous)
- Rocks of the Wilmington terrane (Paleozoic and Proterozoic)

PIEDMONT

MANMADE DEPOSITS

- Artificial fill
- Diabase quarry pit and fillings

EOLIAN, ALLUVIAL, AND SLOPE DEPOSITS

- Eolian sand deposits (Holocene and Pleistocene, late Wisconsinan)
- Albion (Holocene and Pleistocene, late Wisconsinan)
- Beach-barrier deposits (early Holocene and late Pleistocene, late Wisconsinan)
- Albion at Dark Island (early Holocene and late Pleistocene, late Wisconsinan)

TERRACE DEPOSITS

- Milstone terrace deposits (early Holocene and late Pleistocene, late Wisconsinan)
- Stream-terrace deposits (early Holocene and late Pleistocene, late Wisconsinan)
- Albion fan deposits (Pleistocene)
- Upper stream-terrace deposits (Pleistocene)

COLLUVIAL DEPOSITS

- Sandstone, siltstone, conglomerate, or shale-clast colluvium (Holocene to Pleistocene)
- Diabase-block colluvium (Holocene to Pleistocene)
- Basalt-block colluvium (Holocene to Pleistocene)
- Colluvium and alluvium, undifferentiated (Holocene to Pleistocene)

- GLACIAL MELT-WATER DEPOSITS**
- Delaware terrace deposits (of the Rockaway Formation; Stone and others, 1995, in press) (Pleistocene, late Wisconsinan)
 - Beaumont terrace deposits (of the Lammington Formation; Stone and others, 1995, in press) (Pleistocene, late Wisconsinan)
 - Stratified deposits of the Fort Murray Formation; Stone and others, 1995, in press) (Pleistocene, pre-Bronx)
- SAPROLITE, RESEDIMENT, AND ROCK RUBBLE**
- Silty clayey to sandy silty sandstone, siltstone, and shale reworked, silty sandy quartzite and conglomerate, saprolite, and rock rubble (Holocene and Pleistocene)
 - Damascus at Rocky Hill (Pleistocene)
 - Sandy silty diabase saprolite and rock rubble (Pleistocene to Miocene)
 - Clayey silty basalt saprolite and rock rubble (Pleistocene to Miocene)
- OLDER ROCKS**
- Bedrock (Triassic and Tertiary)

- EXPLANATION OF MAP SYMBOLS**
- Contact—Approximately located. Dashed contacts in cross sections are inferred based on data from drill holes (see Powell and others, 1995)
 - Scarp—Tide point downscarp. Dashed scarp south of Salem indicates western edge of abandoned subchannel
 - General direction of transport of surficial deposit
 - Banded Cohansey River channel between dashed lines

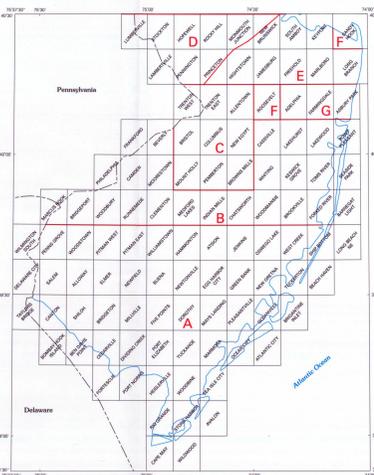
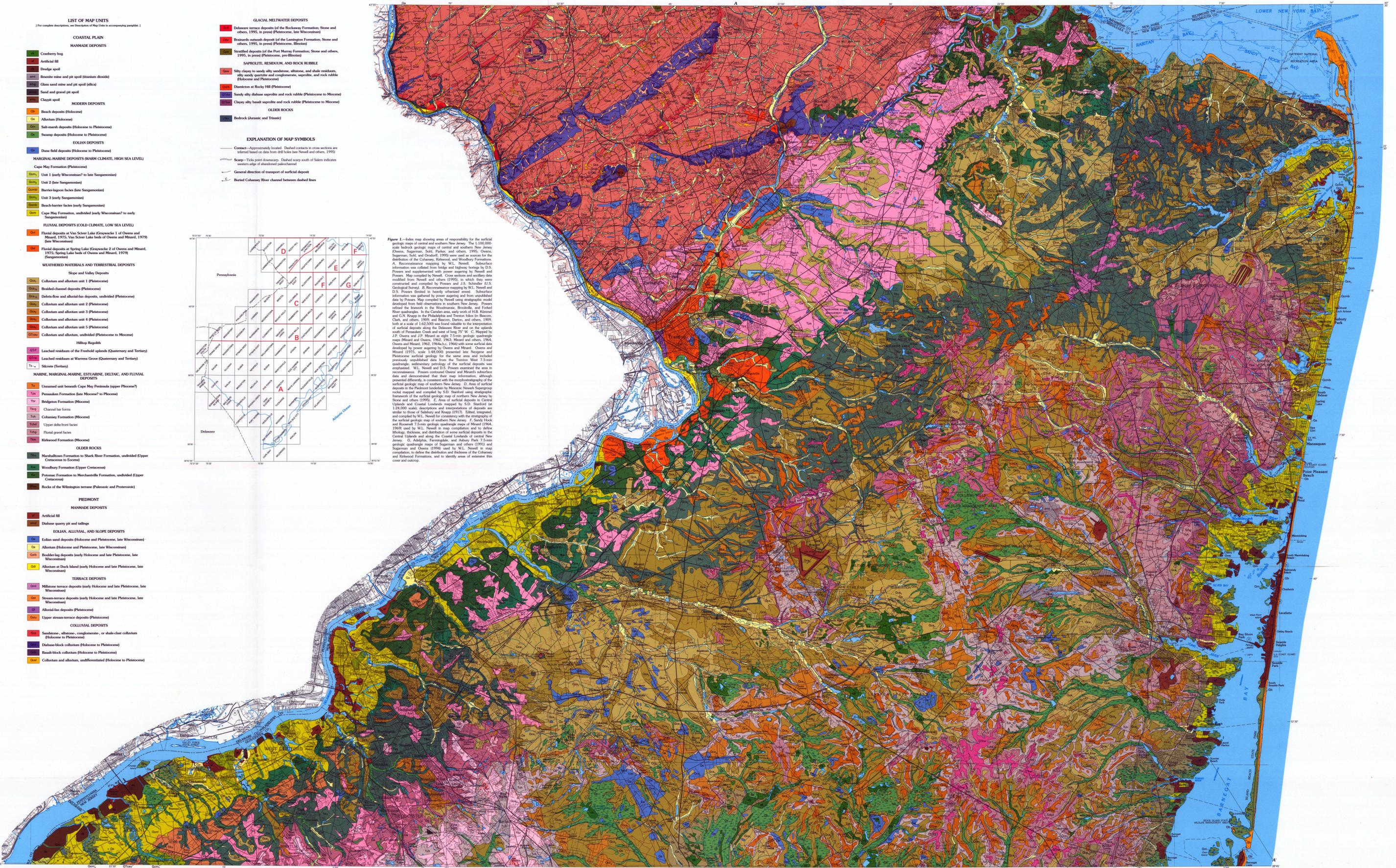
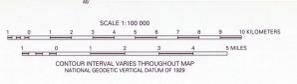


Figure 1.—Inset map showing areas of responsibility for the surficial geologic map of central and southern New Jersey. The 1:500,000-scale bedrock geologic map of central and southern New Jersey (Owens, Sugamán, Soló, Parker, and others, 1995; Owens, Sugamán, Soló, and Crawford, 1999) were used as sources for the distribution of the Cohansey, Kirkwood, and Woodbury Formations. A reconnaissance mapping by W.L. Newell. Subsurface information was collected from boreholes and logs by D.S. Powars and supplemented with power augering by Newell and Powars. Map compiled by Newell. Cross sections and stratigraphic data modified from Newell and others (1995), in which they were contoured and compiled by Powars and J.E. Schilder (U.S. Geological Survey). B. Reconnaissance mapping by W.L. Newell and D.S. Powars (limited to newly collected areas). Subsurface information was gathered by power augering and from unpublished data by Powars. New contours by Newell using stratigraphic and geologic information developed from field observations in southern New Jersey. Powars refined the network in the Woodmont, Brookside, and Fort River quadrangles. In the Camden area, work of H.B. Stewart and G.N. Kropp in the Philadelphia and Trenton lakes (in Bacon, Clark, and others, 1959; and Bacon, Denton, and others, 1960), both at a scale of 1:62,500 was found valuable to the interpretation of surficial deposits along the Delaware River and on the western side of Pennsauken Creek and west of long 75° W. C. Mapped by J.P. Owens and J.P. Maird at a scale of 1:25,000 geologic map (Owens and Maird, 1975, 1979). Maird and Owens, 1962, 1963; Maird and others, 1964; Owens and Maird, 1962, 1964a,b,c, 1966) with some surficial data developed by power augering by Owens and Maird. Owens and Maird (1975), scale 1:48,000 presented late Neogene and Pleistocene surficial geology for the same area and included previously unpublished data from the Trenton West 7.5-min. quadrangle. Sedimentary petrology of the surficial deposits was established. W.L. Newell and D.S. Powars expanded the area to reconnaissance. Powars contoured Owens and Maird's surficial data and demonstrated their map information, although presented differently, is consistent with the morphogeography of the surficial geologic map of southern New Jersey. D. Area of surficial deposits in the Piedmont (including the Mazonia Newark Supergroup) north of the map (compiled by S.D. Stanford using stratigraphic framework of the surficial geologic map of southern New Jersey by Stone and others (1995)). E. Area of surficial deposits in Central Uplands and Coastal Lowlands mapped by S.D. Stanford (at 1:50,000 scale; description and interpretation of details similar to those of Salisbury and Kropp (1971)). Filled, integrated, and contoured by W.L. Newell for consistency with the morphology of the surficial geologic map of southern New Jersey. F. Sandy Hook and Rockaway 7.5-min. quadrangles mapped by Maird (1964, 1969) used by W.L. Newell in map compilation and to define lithologic, facies, and distribution of some surficial deposits in the Central Uplands and along the Coastal Lowlands of central New Jersey. G. Adolphus, Farmingdale, and Ashbury Park 7.5-min. geologic quadrangle maps of Sugamán and others (1991) and Sugamán and Owens (1994) used by W.L. Newell in map compilation, to define the distribution and thickness of the Cohansey and Kirkwood Formations, and to identify areas of extensive thin cover and outcrop.



Base from U.S. Geological Survey, 1:500,000-scale maps, 1961, 1966, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020.



SURFICIAL GEOLOGIC MAP OF CENTRAL AND SOUTHERN NEW JERSEY

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