MAP UNITS

SEDIMENTARY ROCKS

Soil series — Named soils are mapped and described in the Soil Survey reports listed in the bibliography. Soil series include Chewacla, Congaree, and Wehadkee.

Terrace deposits — Unconsolidated alluvial terrace deposits consisting of sand, silt, and clay; in places containing pebbles (0.5 cm to 6 cm in diameter) and cobbles (up to 20 cm in diameter) of quartz; also, unconsolidated alluvial terrace deposits consisting of sand, silt, and clay. These terrace deposits include undifferentiated fine sand, silt, and clay. These terrace are common along the Yadkin River in western Davidson County.

Soils are of the Roanoke series.

Stoneville Formation — Red, reddish-brown, brown, greenish-gray, and gray siltstone, mudstone, and conglomerate. Circles indicate conglomeratic facies; solid indicates sandstone facies; dots indicate siltstone facies.

Cow Branch Formation — Light-gray to dark-gray, massive to thinly laminated, fine- to medium-grained arkosic sandstone; contains minor amounts of very fine- to medium-grained, medium-bedded sandstone; also contains thin lenticular layers of coal in lower 60 meters of unit.

Pine Hall Formation — Grayish-orange, dark yellowish-orange, light-orange and light reddish-brown and maroon sandstone, mudstone (chiefly siltstone), and conglomerate. Conglomeratic facies; solid indicates sandstone facies; dots indicate maroon siltstone facies. Soils developed from Triassic units include Hanceville, Leaksville, Mayodan, Pinkston, Spray, and Wadesboro.

IGNEOUS INTRUSIVE ROCKS

Diabase — Dark-gray to black, medium- to fine-grained diabase (dolerite), forming dike that range in width from a few centimeters to more than 30 meters. Rock consists of labradorite, augite, and opaque minerals; quartz, micrographic intergrowths of quartz and alkali feldspar, and accessory biotite, granitic hornblende, and opaque minerals. Solid diabase dikes indicate where located in the field; dashed lines indicate where projected by aeromagnetic data. Diabase dikes are younger than Triassic rocks. Dots indicate sedimentary rocks. (U.S. Geological Survey, 1971a, 1971b, 1971c, 1974, 1977a). Soils are of the Iredell series.

Porphyritic granite — Light-gray, medium- to coarse-grained porphyritic granite, composed of gray microcline phenocrysts up to 2.5 cm in diameter in a matrix of quartz, plagioclase, microcline, biotite, and muscovite. Contains minor nonporphyritic granite. This porphyritic granite and biotite also contains minor nonporphyritic granite. (Butler and Ragland, 1969; and Stromquist and Sundelius, 1975). The Pilot Mountain pluton has been given a Rb-Sr age date of 282 ± 6 m. y. by Fullagar and Butler (1979).

Felsic intrusive rocks — Light-colored, usually gray but locally pink, massive to foliated, mostly metagranitic rocks; generally composed of quartz, plagioclase, and microcline; biotite and muscovite; metamorphic minerals present include chlorite, epidote, and sericite; accessory minerals include granite, granodiorite, and quartz diorite. In western Davidson County, which includes the Southmont and Yadkin plutons (Stromquist and Sundelius, 1975) and associated with a group of plutons dated between 435 and 388 m. y. (Fullagar, 1971).

Soil series include Appling, Cecil, Durham, Enon, Helena, Lockhart, Pacolet, Sedgefield, Vance, Wedowee, and Wilkes.

Felsic intrusive complex — White to gray, fine- to coarse-grained, massive to foliated, metamorphosed bodies of varying assemblages of intimately associated felsic intrusive rock types, in some areas the complex includes mineralogically similar, but texturally distinct, younger intrusive rocks; in separate intrusions; rock types include granite, granodiorite quartz diorite and quartz monzonite; primary minerals include quartz, plagioclase, a potassium feldspar, biotite, and sericite. Local shearing is common in Guilford County. Narrow mafic dikes intrude the complex in many areas and are frequently so abundant that the complex is mapped with a group of plutons. Soil series include Appling, Cecil, Durham, Enon, Helena, Lockhart, Pacolet, Sedgefield, Vance, Wedowee, and Wilkes.

Intermediate intrusive rocks — Gray to greenish-gray, medium- to coarse-grained, massive, well-jointed metamorphosed bodies; probably diorite in composition; composed primarily of hornblende, plagioclase, biotite, epidote, and sericite; contains minor amounts of quartz, pyroxene, magnetite, and occasionally allanite and sphene. Dots indicate augen gneiss or porphyroblastic biotite gneiss where diorite and gabbro are too closely associated to be mapped separately. Soil series include Appling, Cecil, Durham, Enon, Hiwassee, Iredell, Mecklenburg, and Sedgefield.

Mafic intrusive rocks — Dark greenish-gray to black, medium- to coarse-grained massive, well-jointed, intrusive bodies; primarily gabbroic in composition; chiefly composed of hornblende, pyroxene, plagioclase, magnetite, and occasionally olivine and biotite. Dots indicate augen gneiss or porphyroblastic biotite gneiss where diorite and gabbro are too closely associated to be mapped separately. Soil series include Appling, Cecil, Durham, Enon, Hiwassee, Iredell, Mecklenburg, Sedgefield, and Wilkes.

Ultramafic rocks — Black to dark-green, coarse-grained rocks composed of serpentine and hornblende; where shown as separate units, chiefly composed of serpentine. Soils are of the Mecklenburg series.

METASEDIMENTARY AND METAVOLCANIC ROCKS

Mafic volcanic rocks — Dark-gray to black, fine- to medium-grained andesitic to basaltic tuffs, crystal tuffs, crystal-lithic tuffs, tuff breccia, and flows usually exhibiting prominent cleavage striking to the northeast and dipping steeply to the northwest; chiefly composed of hornblende, plagioclase fragments in a matrix altered to hornblende-actinolite, chlorite, epidote, calcite and sphene; locally also contains minor argillite and felsic intrusive rocks. Soils are of the Georgeville, Herndon, Lignum, Nason, and Tatum series.

Argillite — Light-gray to brown to bluish-gray, fine-grained, thinly laminated rock with prominent bedding plane and axial planar cleavage; laminations chiefly of quartz, feldspar, sericite, and chlorite; locally includes beds of muscovite, sandstone, shale, conglomerate, and felsic volcanic rock; some of mudstone, sandstone, shale, conglomerate, and felsic volcanic rock; some of gray sericite schist or phyllonite. In western Randolph and southern Davidson Counties this unit includes mudstone, shale, thinly laminated siltstone, and fine-grained sandstone. Mapped as the Carolina slate belt by Stromquist and Dennison (Stromquist and others 1971, Stromquist and Sundelius, 1975) and Wright (1977).

Felsic flows — Medium- to light-gray, dense, porphyritic to spherulitic, rhyolitic to dacitic flow rocks frequently showing flow banding; also includes minor amounts of tuff, crystal tuff, and lithic tuff; in places contains abundant sills as well as flows; porphyritic phases contain quartz and feldspar phenocrysts as large as 3 mm. This unit corresponds to the felsite portion of Wright's (1977) and portions of the rhyolite-dacite Quadrangle (Seiders and Wright, 1977) and portions of the rhyolite-dacite Quadrangle (Stromquist and others, 1977) and Coal Formation in the Denton Quadrangle (Stromquist and others, 1977) and Coal series include Georgeville, Goldston, Herndon, Lignum, Nason, and Orange.

Felsic volcanic rocks — Chiefly interbedded medium- to light-gray to greenish-gray containing subhedral to euhedral feldspar crystals; crystal tuff is in places interbedded with dacitic to rhyolitic crystal-lithic tuff; also contains minor amounts of feldspar, quartz, sericite and chlorite; includes some interbedded felsic flows; in places contains abundant fragments of felsic volcanic rocks; includes minor amounts of intermediate to mafic volcanic rocks. Does not include felsic intrusive rocks; epiclastic rocks; and