Base map by U. S. Geological Survey
Geology mapped in 1989-1990
Digital cartography by Robert O. Walton III

Polyconic projection. 10,000-foot grid ticks based on North Carolina coordinate system. 1000-meter Universal Transverse Mercator grid ticks, zone 17, shown in blue. 1927 North American Datum. To place on the predicted North American Datum 1983 move the projection lines 12 meters south and 24 meters west as shown by dashed corner ticks

POWHATAN, N. C.
SW/4 SELMA 15' QUADRANGLE
N3530—W7822.5/7.5

1964
PHOTOREVISED 1981
DMA 5355 III SW—SERIES V842

GEOLOGIC MAP OF THE POWHATAN 7.5-MINUTE QUADRANGLE, NORTH CAROLINA

By

P. Albert Carpenter III

1990

DESCRIPTION OF MAP UNITS

SEDIMENTARY ROCKS

Quaternary

Qal — **Alluvium-** white to light-gray, unconsolidated clay, silt, sand, and, locally, gravel associated with floodplains.

Tertiary

ss — **Surficial sediments-** white to light-gray to yellowish-gray unconsolidated sand, clay, and gravel. These sediments cover underlying sedimentary rocks and crystalline rocks, except in drainages. Iron-oxide-cemented sediments occur locally near the base of the sedimentary cover.

Gravels- Unconsolidated cobbles, clay, and sand. The gravels consist of cobbles of white to red, subrounded to subangular quartz and, rarely, rock fragments, up to 10 cm in maximum dimension in a matrix of reddish-orange and reddish-brown sand and clay.

Cretaceous

Ku — **Undifferentiated sediments-** dark-yellowish-orange to moderate-reddish-orange to moderate-reddish-brown sandy silt with scattered subrounded quartz pebbles up to 15 mm in maximum dimension. Locally, contains a thin bed of grayish-black organic-rich sediment. Includes very-light-gray fine sand, silt, and clay, and iron-oxide-cemented conglomerate.

METAMORPHIC ROCKS

Late Precambrian to Early Paleozoic

md — **Metamudstone-** very fine-grained, thinly bedded to massive, light-tan to very pale-orange to dark-yellowish-orange and yellowish-gray to pinkish-gray metamorphosed mudstone and siltstone. Cleavage surfaces commonly have a phyllitic appearance. Some coarse mica is along bedding planes. Well-developed crenulation cleavage is common. Locally, the metamudstone is very light-gray quartz-sericite phyllite.

am — **Amphibolite-** black to greenish-black, slightly foliated to lineated and locally schistose hornblende amphibolite. Occurs as the predominant rock type in a unit in the west-central part of the quadrangle and interlayered with biotite gneiss in other areas. Locally, contains biotite. Chlorite-epidote-rich float occurs in some areas.

mgn — **Biotite gneiss-** medium- to coarse-grained, light-gray to medium-light-gray, well-foliated, quartzofeldspathic gneiss. Contains interlayers of light-gray to pale-pink felsic gneiss, white to light-gray, fine-grained muscovite schist, and greenish-black to black amphibolite. Where it is in contact with metamudstone, the gneiss is predominantly fine-grained, white to pale-pink felsic gneiss with scattered biotite flakes. The felsic gneiss includes metasediment and metavolcanic rock. Some felsic gneiss is metatuff containing rock fragments parallel to the direction of the foliation and cleavage. Metamorphic grade increases to the north.

qms — **Quartz-muscovite schist-** medium-grained, white to light-gray, quartz-muscovite schist. Commonly contains pyrite disseminated and locally segregated into layers parallel to the schistosity. Includes very minor chlorite schist, quartzite, and intermediate volcanic rock. Commonly with well-developed small-scale folding. Contains quartz pods and quartz veins. Pods and clusters of kyanite are present locally. In places the kyanite is concentrated parallel to the cleavage.

qk — **Quartz-kyanite rock-** dense, massive, white quartzose rock containing disseminated kyanite and minor muscovite. Some areas shown as qk on the map consist of float boulders.

INTRUSIVE ROCKS

Jurassic

Jd — **Diabase-** fine-grained, dense, black to greenish-black dike rock.

Late Paleozoic

gr — **Granite-** fine- to medium-grained, light-gray to pale-pink, massive to slightly foliated granite composed of quartz, feldspar, and small biotite flakes.

Late Precambrian to Early Paleozoic

fd — **Metafelsite-** medium-grained, light-gray dike rock composed of plagioclase, quartz, biotite, muscovite, and epidote.

Symbols

Contact- well located

Contact- approximately located

65 Strike and dip of bedding

65 Strike and dip of foliation

65 Strike and dip of cleavage

Strike of vertical bedding

Strike of vertical foliation

Strike of vertical cleavage

Po 89-10 Sample location

Outcrop location

Natural Spring

Fe Iron prospect

S G S- Sand pit G- gravel pit

Fe Inactive iron mine