

Summary of Map Units

UNCONSOLIDATED SEDIMENTARY ROCKS

- Quaternary**
  - Qal** Alluvium - White to light-gray, unconsolidated clay, silt, sand and locally, gravel associated with floodplains.
  - Qt** Alluvium - stream terrace - Unconsolidated silt, sand, and gravel occurring above the present floodplain.
- Pliocene**
  - cpu** Coastal Plain Sediment - Unconsolidated to poorly consolidated, fine- to coarse-grained sands and clayey sands, with local gravel and clay beds. Gravel, gravely sand, and coarse, poorly sorted, angular to subangular sands occur at the base of the Coastal Plain section. Contact with crystalline rocks is approximate. \* sil. ls. - siliceous fossiliferous sediment was found as float at one locality. The Coastal Plain Office of the NC Geological Survey is conducting detailed geologic mapping of Coastal Plain sediments as part of the STATEMAP program.

INTRUSIVE ROCKS

- Jurassic**
  - Jd** Diabase - Jd - fine- to medium-grained, dense, black to greenish-black mafic olivine diabase. Jd1 - coarse-grained diabase; contains augite, hypersthene, and micrographic quartz-K feldspar intergrowth in addition to prominent locally blocky plagioclase; lacks olivine. Dot indicates float boulder.
- Late Paleozoic**
  - Rg** Rolesville batholith - medium- to coarse-grained to megacrystic, monzogranite. Granite outcrops - Rolesville main granitoid - medium- to coarse-grained, locally foliated, biotite-muscovite monzogranite.
- Late Precambrian to Early Paleozoic**
  - erg** Granitoid (Glen Laurel granitoid) - medium- to coarse-grained, light-gray to pale-pink, massive to slightly foliated granite composed of quartz, feldspar, muscovite, biotite, epidote, chlorite, and garnet. Locally, contains clusters of biotite and muscovite.

METAMORPHIC ROCKS

Upper Sequence - Metamorphic Rocks of the Eastern slate belt

- Metasedimentary Rocks of the Eastern Slate Belt**
  - ar** Argillite - Very fine grained, light-gray to light-olive-gray laminated argillite. Chlorite-muscovite-graphite (?) layers generally <1mm thick alternate with thicker quartz-rich layers.
- Metavolcanic Rocks of the Eastern Slate Belt**
  - ffv** Fine-grained felsic volcanic rock (ffv). Aphanitic, gray, quartz-feldspathic, volcanic rock interpreted to be vitric and vitro-crystal tuff on the Stancils Chapel quadrangle. Felsic volcanic rocks are commonly altered. Sericitic alteration is prominent in sericitic phyllite (ph). Sericitization, silicification, and pyritization are present in the siliceous phyllite unit (sp) which contains chloritoid and concordant zones of massive quartz in the Stancils Chapel quadrangle. Meta-andesite (cms1) is interbedded and includes common alteration minerals of chlorite, epidote, and quartz. q - quartz vein.
  - ls** Laminated epiclastic rocks and felsic lithic-crystal tuff - Medium- to coarse-grained, light-gray laminated rock. Consists of flattened pumice lapilli, quartz crystals, and layers of sediment in a matrix of quartz, feldspar, and mica. Locally phyllitic.
  - qft** Felsic crystal tuff - Fine- to medium-grained, light-gray felsic volcanic rock containing phenocrysts of quartz and/or feldspar, locally up to 0.5 cm in size.

Lower Sequence Amphibolite-grade gneiss and schist.

- Heterogeneous gneiss and schist** - fine- to medium-grained, white to medium gray quartz-plagioclase-biotite-muscovite gneiss and quartz-muscovite schist. Interlayered with muscovite schist and minor biotite schist, fine-grained biotite gneiss, and amphibolite. Local layers contain abundant plagioclase crystals and sparse white lithic fragments elongate parallel to foliation. Composition and textures suggest a felsic volcanic origin. am - fine- to medium-grained hornblende-epidote-plagioclase-titanite amphibolite, metabasalt, metagabbro, and gneiss. Locally exhibits relict igneous texture.
- Biotite-muscovite-quartz-plagioclase gneiss** - fine- to medium-grained, light olive gray schistose rock containing abundant plagioclase crystals and quartz. Contains pyrite, locally. Crystals are particularly prominent on weathered surfaces. Includes discontinuous, narrow elongated, and pod-like lenses of very fine-grained, very finely striped felsic rock enveloped in biotite-rich schist. Gneiss (bmg) from the Mill Creek area has been given a U-Pb date of 620 ± 9 Ma (Goldberg, 1994). myl - mylonite to protomylonite.
- Garnet-muscovite-biotite schist** - medium-grained, gray to black muscovite-biotite schist containing small scattered pink garnets and, locally, staurolite. Contains minor interbedded felsic gneiss, biotite gneiss, and amphibolite.

Symbols

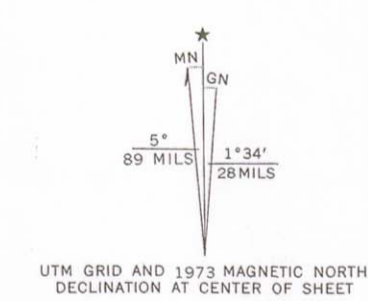
- Contact - well located
- Contact - approximately located
- Contact - concealed
- 75 Strike and dip of bedding
- 75 Strike and dip of foliation
- 75 Strike and dip of cleavage (primary schistosity)
- 75 Strike and dip of secondary (transformation) cleavage
- Strike of vertical bedding
- Strike of vertical foliation
- Strike of vertical cleavage (primary schistosity)
- Strike of vertical secondary (transformation) cleavage
- Observation site in crystalline rocks
- Outcrop locality
- FL-A - Location of water well - crystalline rocks identified in outcrop
- RL-3 Geothermal test well
- axial trace of overturned synform
- Thrust Fault - Teeth on upper plate



BEDROCK GEOLOGIC MAP OF THE FLOWERS 7.5-MINUTE QUADRANGLE, JOHNSTON COUNTY, NORTH CAROLINA

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SCALE 1:24000  
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