NORTH CAROLINA
DEPARTMENT OF NATURAL AND ECONOMIC RESOURCES

GEOLOGIC MAP SERIES
1975

Base map control by USGS

CONTOUR INTERVAL 10 FEET

SCALE 1:62500

1 0 1 2 3 4 MILES

3000 0 3000 6000 9000 12000 15000 18000 21000 FEET

1 .5 0 1 2 3 4 5 KILOMETERS

N.C.
Quadrangle Location

GEOLOGY OF THE WINSTEAD QUADRANGLE, N.C.

By

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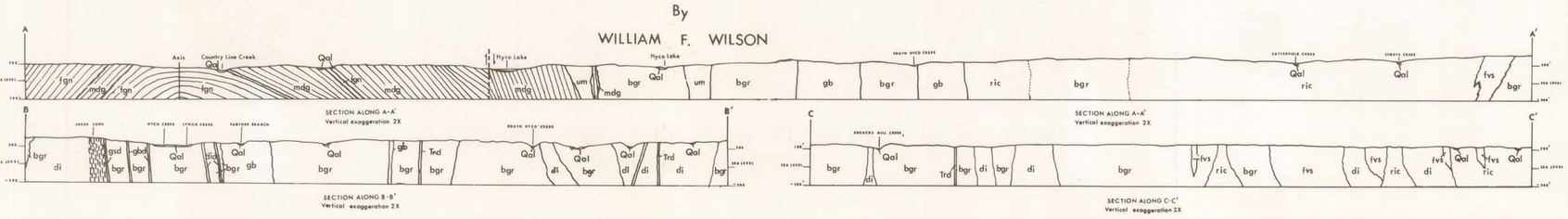

LEGEND

CENOZOIC — RECENT — QUATERNARY

Qal — Alluvium

Stream deposits, unconsolidated gravel, sand, silt and clay.

PALEOZOIC — LOWER (?) — CAMBRIAN (?)

fvs — Metavolcanic Rocks

Metavolcanic rocks, subaerially and subaqueously deposited felsic pyroclastics and flow rocks with minor linear to lenticular-shaped andesite (greenstone) bodies that are discontineous along strike.

The felsic pyroclastics are predominantly light-to medium-gray to medium-greenish-gray, dense to fine-grained, tuffs, crystal tuffs, crystal-lithic tuffs, argillites and tuffaceous conglomerates (some appear agglomeritic). The flow rocks are medium-to dark-gray, dense, rhyolite porphyries, flow breccias and spherulitic rhyolites.

PRECAMBRIAN — UPPER (?)

bqp — Hyco Quartz Porphyry

Hyco quartz prophyry, light-gray to buff to white, medium-grained, porphyritic to foliated; composed of quartz, orthoclase, albite-andesine, muscovite-sericite and some hematite.

gsh — Sillimanite Garnet Schist

Sillimanite garnet schist, mottled reddish-brown to buff, exhibiting light-gray to white streaks, medium-grained; composed of sillimanite, muscovite, quartz and garnet.

fgn — Felsic Gneiss

Felsic gneiss, light-gray to buff to pink, equigranular, fine-to medium-grained, composed mainly of quartz, microcline, albite with accessory biotite and garnet.

mdg — Mixed Gneisses and Schists (ortho and para) (hornblende gneisses, biotite schists, quartzo-feldspathic gneisses, muscovite-biotite garnet schists)

Predominant rock types are interlayered hornblende gneisses and quartzo-feldspathic gneisses. The hornblende gneisses are mottled dark-greenish-gray to black, fine-to medium-grained (some possible metaflow rocks), composed of hornblende, albitized plagioclase, actinolite, quartz, epidote, limonite and opaque minerals. Minor interlayers of biotite schists occur with the hornblende gneisses. The biotite schists are dark-green to black, medium-grained, composed of biotite, hornblende, quartz, chlorite, epidote and opaque minerals.

The quartzo-feldspathic gneisses are light-gray to buff, fine-to medium-grained, composed of quartz, microcline, muscovite, biotite and some garnet. Minor interlayers of muscovite-biotite-garnet schists occur with these gneisses. The schists are light-brown to buff, medium-grained, composed of muscovite, quartz, biotite, garnet and opaque minerals.

MESOZOIC — UPPER (?) — TRIASSIC

Trd — Diabase Dikes

Diabase dikes, dark-green to dark-greenish-gray, fine-to medium-grained, composed predominantly of augite, calcic plagioclase, olivine and opaque minerals.

AGE UNKNOWN

gsd — Altered Greenstone Dikes

Altered greenstone dikes, mottled greenish-brown to dark-green, fine-to medium-grained, schistose, composed predominantly of chlorite, biotite, plagioclase, sericite and opaque minerals.

PG — Pegmatites

Pegmatites, buff to white, coarse-to very coarse-grained, composed of perthitic microcline, quartz and muscovite with some albite, biotite and garnet.

PALEOZOIC — LOWER (?) — CAMBRIAN

ric — Roxboro Igneous Complex

Roxboro igneous complex, mottled light-to medium-gray, fine-to medium-grained, massive to porphyritic, foliated in places, composed of plagioclase, biotite and quartz with some magnetite, pyrite and limonite; light-gray, fine-grained zones of biotite granite occur scattered within the intrusive and are composed of orthoclase, some plagioclase, biotite and quartz. The periphery of these zones are transitional and appear to be a part of the original magma.

did — Diorite Dikes

Diorite dikes, medium-to dark-gray, fine-to coarse-grained, in places prophyritic, composed of hornblende, oligoclase, actinolite, epidote; some dikes also contain some chlorite, limonite and sericite.

di — Diorite

Diorite, medium-to dark-gray, fine-to medium-grained with prophyritic phases, composed predominantly of andesine, hornblende, actinolite, epidote and chlorite. Some accessory clinozoisite, calcite, limonite and magnetite occur in places.

gbd — Gabbro Dikes

Gabbro dikes, dark-gray to black, fine-to coarse-grained, prophyritic in places, composed of labradorite, some andesine, augite, hornblende, actinolite, epidote, magnetite and opaque minerals.

gb — Gabbro

Gabbro, mottled dark-gray to black (depending upon relative percentages of hornblende and labradorite), fine-to coarse-grained, with prophyritic phases, composed mainly of labradorite, andesine, hornblende, actinolite, epidote and opaque minerals.

mgb — Metagabbro

Metagabbro, dark-gray to black, medium-to coarse-grained, porphyritic, composed of albitized plagioclase, augite, actinolite, chlorite, epidote, sphene, hematite, limonite and some quartz.

um — Altered Ultramafic Rock

Altered ultramafic rock, olive green to dark-green, medium-to coarse-grained, composed primarily of hornblende, actinolite, epidote, chlorite and tremolite. Enstatite, serpentine, chromite, talc, sphene, pyrite and opaque minerals are also present in varying amounts. The ultramafic rocks are massive to well foliated linear and lens-like bodies which are concordant to semi-concordant to the surrounding rocks.

bgr — Biotite Granite

Biotite granite, light-gray to buff, medium-to coarse-grained, severely weathered, composed of orthoclase and microcline feldspar, quartz and biotite with accessory plagioclase, muscovite, epidote, sphene, limonite and opaque minerals; foliated in places; contains fine-grained granodioritic zones composed of albite, quartz, biotite with some chlorite, epidote and sphene.

SYMBOLS

- Contact, showing dip — *Dashed where approximately located*
- Indefinite contact
- Fault, showing dip — *Dashed where approximately located* U, *upthrown side*; D, *downthrown side*
- Fault, showing relative movement
- Axis of anticline — *Dashed where approximately located*
- Strike and dip of beds
- Strike of vertical beds
- Horizontal beds
- Strike and dip of cleavage
- Strike of vertical cleavage
- Strike and dip of foliation
- Strike of vertical foliation
- ec — Outcrop area
- qv — Quartz vein
- Shear zone
- di — Inclusions - Zenoliths